

THE FOLIO

A Collection of Academic Projects by,
Sammana Hasan, *Master of Architecture*
Curtin University, Australia (2024 - 2025)





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01 *Architectural thesis project 01 (December, 2025)*
Submitted, Obtained marks% **Assessment underway**

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Completed, Obtained marks% **82**

03 *Urban Design Studio (March, 2025)*
Completed, Obtained marks% **88**

04 *Architectural systems & research methods (November, 2024)*
Completed, Obtained marks% **92**

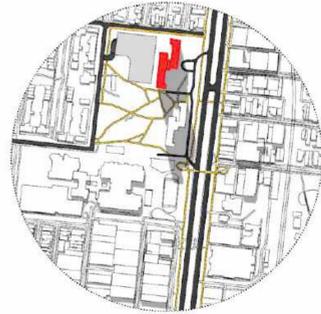


Figure 1: Key circulation flow across the site
Courtesy: Author based on information gathered from: [https://www.fox.com.au](#)

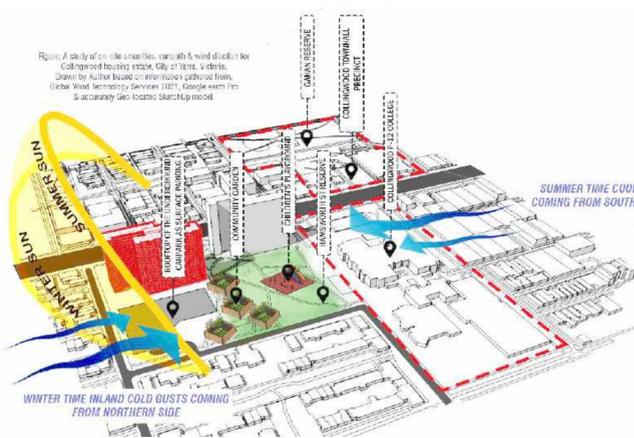
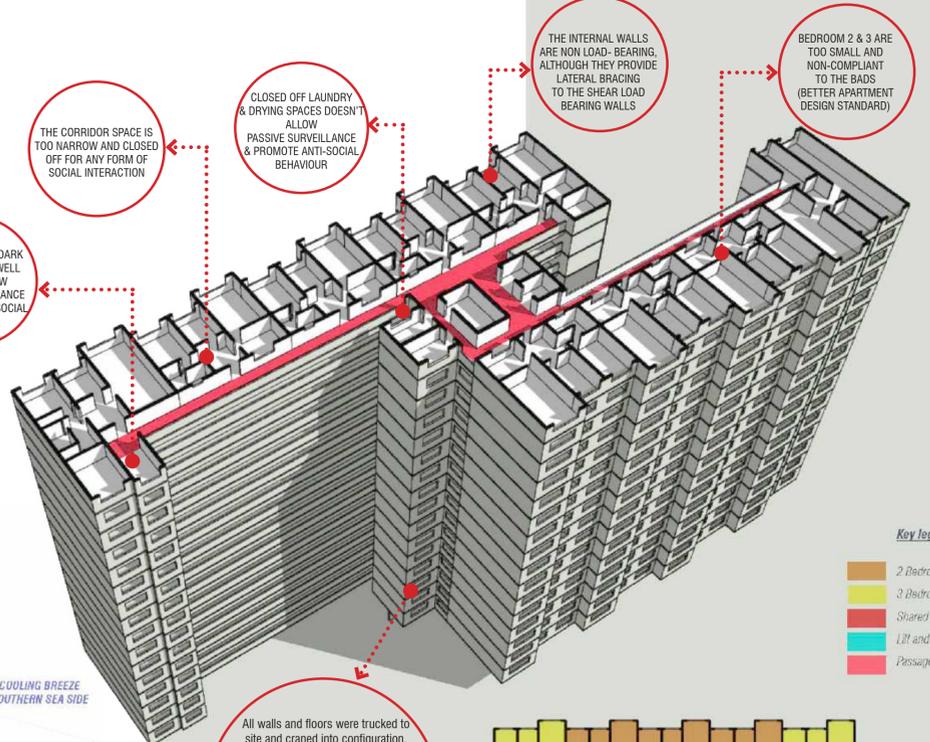


Figure 1: A study of circulation flows, sun path & wind direction for Collingwood housing estate, City of Yarra, Victoria.
Created by Author based on information gathered from: [Global Wind Technology Services \(2021\)](#), Google earth Pro & secondary geo-located sketchup model.

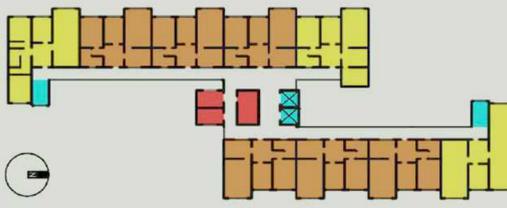
CONTEXT MAPPING



All walls and floors were trucked to site and craned into configuration, allowing for efficiency in construction time. Wall panels are connected together via steel dowels and bolted connections, with floor panels welded together by steel tie bars. While this approach offered efficiency of construction, the load bearing walls make any future alterations or spatial reconfigurations difficult.

Key legends:

- 2 Bedroom apartment
- 3 Bedroom apartment
- Shared amenities
- Lift and Fire stairs
- Passeway Corridors



A Future Projection of Urban declassification trends:
Melbourne's urban population is projected to grow by 1.5 million people by 2041, necessitating an additional 1.5 million housing units. The current housing stock is insufficient to meet this demand, leading to a projected 1.5 million housing units in deficit by 2041. This projected deficit is a significant challenge for the city's housing market, particularly for low and middle-income households. The deficit is projected to be most acute in the inner city, where the demand for high-quality, affordable housing is highest. This deficit is projected to be most acute in the inner city, where the demand for high-quality, affordable housing is highest.

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BACKGROUND STUDY

- The struggle over Melbourne's high-rise public housing towers has reached a critical juncture, characterized by a profound trust in conflict between the Victorian Government and the residents. At the heart of the conflict is the government's Big Housing Build plan to demolish and redevelop all 44 towers by 2051, a move officials justify by citing "end-of-life" infrastructure, including "concrete cancer," failing sewage systems, and poor thermal performance (Parliament of Victoria 2025).
- However, residents and community advocates describe the process as "shrouded in unacceptable secrecy" (IMCL 2025). The struggle is manifested in several key areas:

- 1. The Fight for Transparency:** A central point of contention is the government's refusal to release the technical and financial evidence used to justify demolition over refurbishment. During a 2025 parliamentary inquiry, the government claimed executive privilege over 146 documents, leading critics to label the decision-making process as "manufactured obsolescence" (World Socialist Web Site 2026). Residents feel they are being asked to accept the destruction of their homes "on face value" without seeing the feasibility studies or cost-benefit analyses (IMCL 2025).
- 2. Community Disruption and "Domicide":** The demolition is not merely a physical act but a social one that risks "domicide"—the deliberate destruction of a home. The towers house established communities where connections have developed over decades, providing "solidarity and mutual support" for migrants, refugees, and the elderly (World Socialist Web Site 2026). Forced relocations have already triggered significant trauma, with reports of heightened anxiety, worsening dementia symptoms in older residents, and even deaths attributed to the stress of displacement (Parliament of Victoria 2025; World Socialist Web Site 2026).
- 3. Legal and Professional Resistance:** The community has resisted through a high-profile class action led by Inner Melbourne Community Legal (IMCL), arguing that the government failed to consider residents' human rights under the Charter of Human Rights and Responsibilities Act (IMCL 2025). Simultaneously, nearly 700 built-environment professionals have signed an open letter demanding a moratorium, pointing to independent research by OFFICE and the RMIT Retrofit Lab which suggests that retrofitting could save \$1.5 billion and prevent 700,000 tonnes of carbon emissions (ArchitectureAu 2026; RMIT University 2026).

Despite these challenges and an inquiry calling for a halt, the government continues to move forward with relocations and deconstruction at sites like Elgin Street and Holland Court, further deepening the rift between the state and its most vulnerable citizens (ArchitectureAu 2026).

Significance of these research in current scenario:

- By shifting from "demolition" to "regeneration," this project renegotiates the relationship between the modernist tower and the city. It prioritizes Place Agency over institutional control, retains massive embodied carbon, and proves that Melbourne's public housing is a vital site for a climate-positive and socially just future.

Context: The current urban discourse in Melbourne is dominated by the Victoria Government's "Big Housing Build," a \$8 billion program proposing the demolition of 44 iconic public housing towers by 2051. This strategy, predicated on technical obsolescence and structural "failure," risks the "domicide" of long-standing multicultural communities and the release of over 700,000 tonnes of embodied carbon. This research seeks to locate a transformative alternative of the "demolish and rebuild" model—viewing the existing concrete structures not as liabilities, but as carbon-rich scaffolds for regenerative growth.

The Argument: I argue that the practice of "regenerative retrofitting" can harness the latent potential of these 1960s-70s precast concrete structures to create a "Vertical Village" that is ecologically reciprocal to environment and socially resilient. By moving beyond mere pragmatic renovation approaches toward a systems thinking approach, architecture can mediate between historical memory and a socio-environmentally resilient future without the trauma of displacement.

The central research question investigates how can we revitalize Melbourne's modernist public housing towers through retrofitting to function as regenerative, vertical villages and improve overall socio-environmental resilience?

Research aims/ objectives: To address this overarching question, four research objectives are chosen here which can lead to specific, measurable steps to undertake, that will lead to the revitalization of a chosen public housing tower as a **regenerative vertical village**.

Research objective 1: To evaluate the existing precast structure not as an obsolete liability, but as a carbon-rich and socially-embedded scaffold that justifies retention over demolition.

Research objective 2: To design a network of "Vertical Commons"—architectural interventions that transition the tower from isolated units into a high-rise village by catalyzing spontaneous social exchange and resource sharing.

Research Objective 3: To dissolve the "monolithic" isolation of the tower by establishing reciprocal spatial and visual thresholds that allow the building to function as an open, connected organ of the surrounding neighborhood.

"It takes A VILLAGE to raise a child", they say ... so why are we tearing down the community when we can help it grow?



Architectural thesis project 01
MAA640 December 2025
Course Tutor: Dr. Urs Bette, Alex Lockhart, & Ahdha Moosa

THE REGEN VILLAGE
An approach to revitalize Melbourne's modernist public housing towers through Regenerative Retrofitting



A way of systems thinking
THEORETICAL FRAMEWORK
As my approach to regenerate the tower as a Vertical Regenerative Village

At the core of this research framework is a TRIANGULATION of three systems thinking principles: Regenerative Placemaking tool, Third Nature design philosophy, and Connection to Country. Together, these principles form a circular self-renewing system that aims to achieve socio-environmental resilience within the context of Melbourne's public housing regeneration.

The key shared components between Country-Centered, Third Nature, and Regenerative design principles which informs the core of my design framework include:

1. To establish a network of resource sharing based regenerative collective living, where human and non-human kin co-inhabits the built form.
2. To create a hybrid 'Third Nature' within the urban landscapes where the artificial and the organic are inseparable.
3. To heal the vertical disjunction caused by the monolithic structure by reconnecting it as an extension of Country on ground level, and creating vertical spaces for native flora and fauna to travel and migrate.

To manifest these core principles into the Vertical Village, a design component will be introduced that embodies all three key principles mentioned above:

The SOCIAL ATRIA: A network of regenerative communal spaces to formulate the Vertical Village

The Social Atria, which will be connecting different parts of the vertical village, functions as the enabler of the Regen Village, a network of sharing resource, space and fostering communal relationships in the process to achieve socio-environmental resilience.

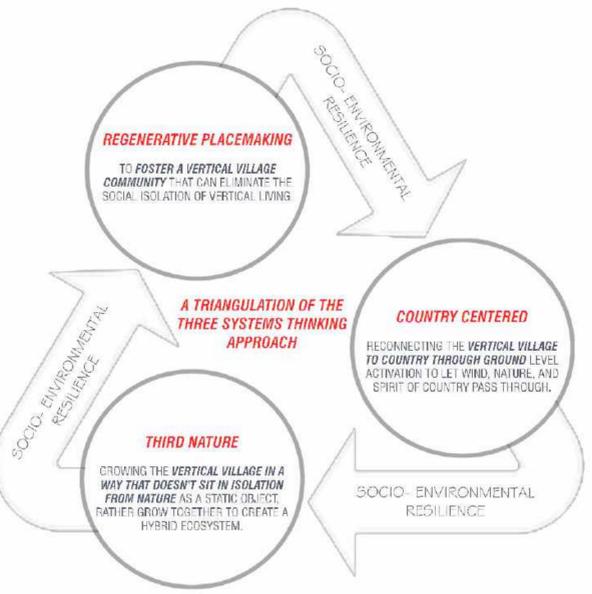


Figure: The theoretical framework of the REGEN VILLAGE
 Drawn by author

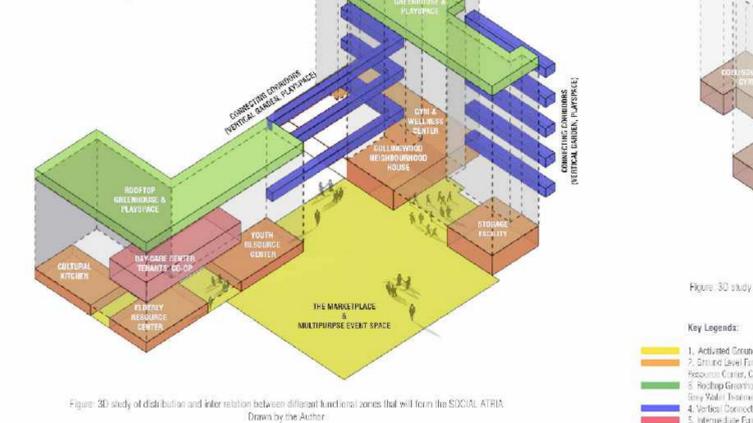
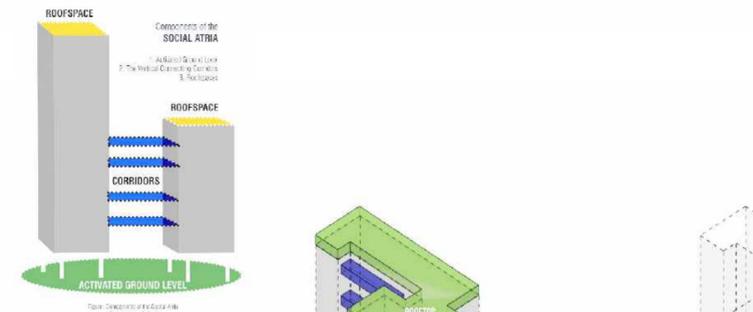


Figure: 3D study of distribution and inter relation between different functional zones that will form the SOCIAL ATRIA.
 Drawn by the Author

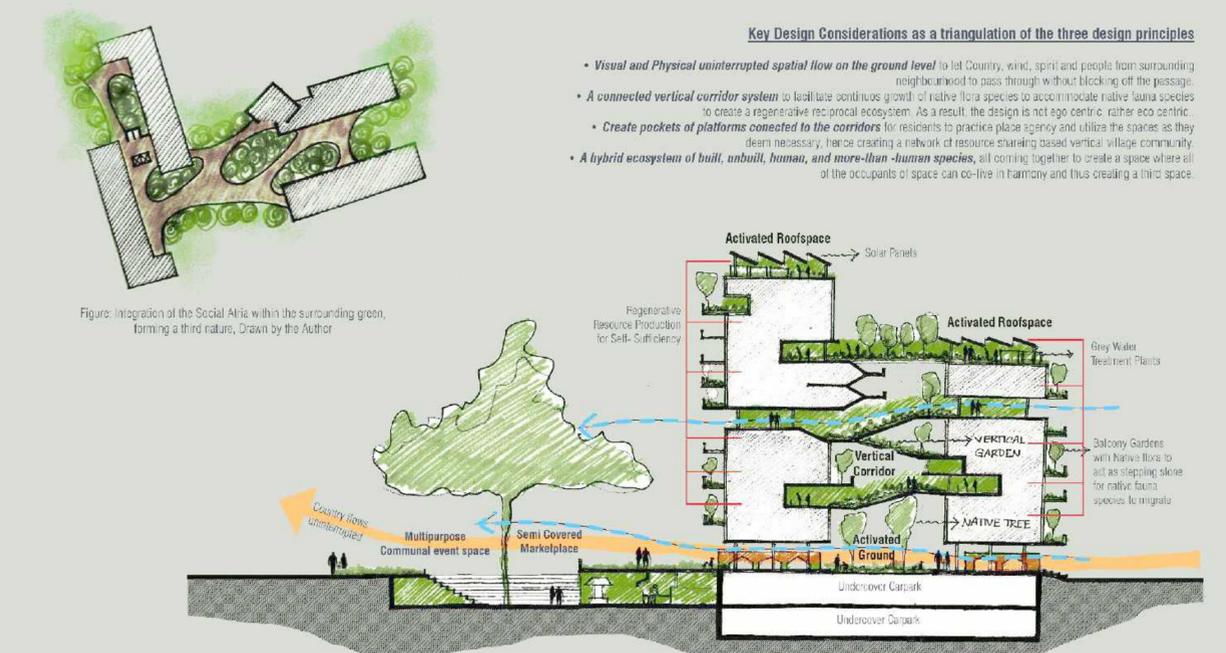


Figure: Primary considerations to integrate the Proposed Design Framework of the Social Atria
 Drawn by the Author

- COUNTRY CENTERED DESIGN PRINCIPLE**
 - Shifting from ego-centric to eco-centric design principle.
 - A reciprocal relation of care between Country and people. The focus is on how a project can make Country better than before, rather than just extracting value from it.
 - Specifying local plants to provide food for "non-human kin" (fauna) and using locally sourced materials to promote circular economy and reduce waste.
- THE THIRD NATURE DESIGN PRINCIPLE**
 - Entanglement of the Artificial and Natural: Design does not seek to "return to nature" but rather to create environments where ecological processes and technological/urban conditions are inseparable.
 - Ecosystemic Studies: Projects are viewed as ecosystemic models that mediate between people, objects, and other natural species, rather than just isolated buildings.
- REGENERATIVE DESIGN PRINCIPLE**
 - Whole Systems Thinking: Viewing the building as part of a larger ecological and social network, rather than an isolated object.
 - Ecosystem-Centric Design: Mapping local ecology to ensure the building actively enhances local biodiversity, such as including habitats for local species like pollinators or birds.
 - Net-Positive Resource Cycles: Aiming to generate more energy than is consumed.

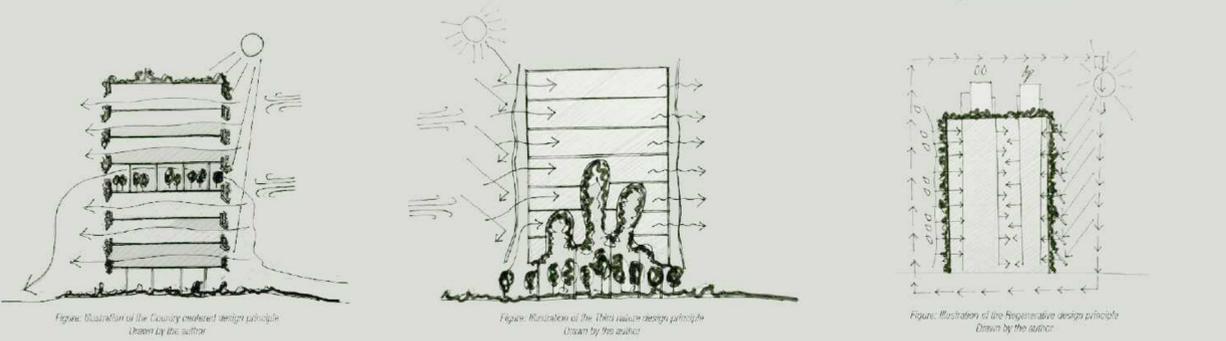


Figure: Illustration of the Country centered design principle
 Drawn by the author

Conceptualization Of The Regen Village
CONCEPTUAL DEVELOPMENT: MASSING FORMULATION

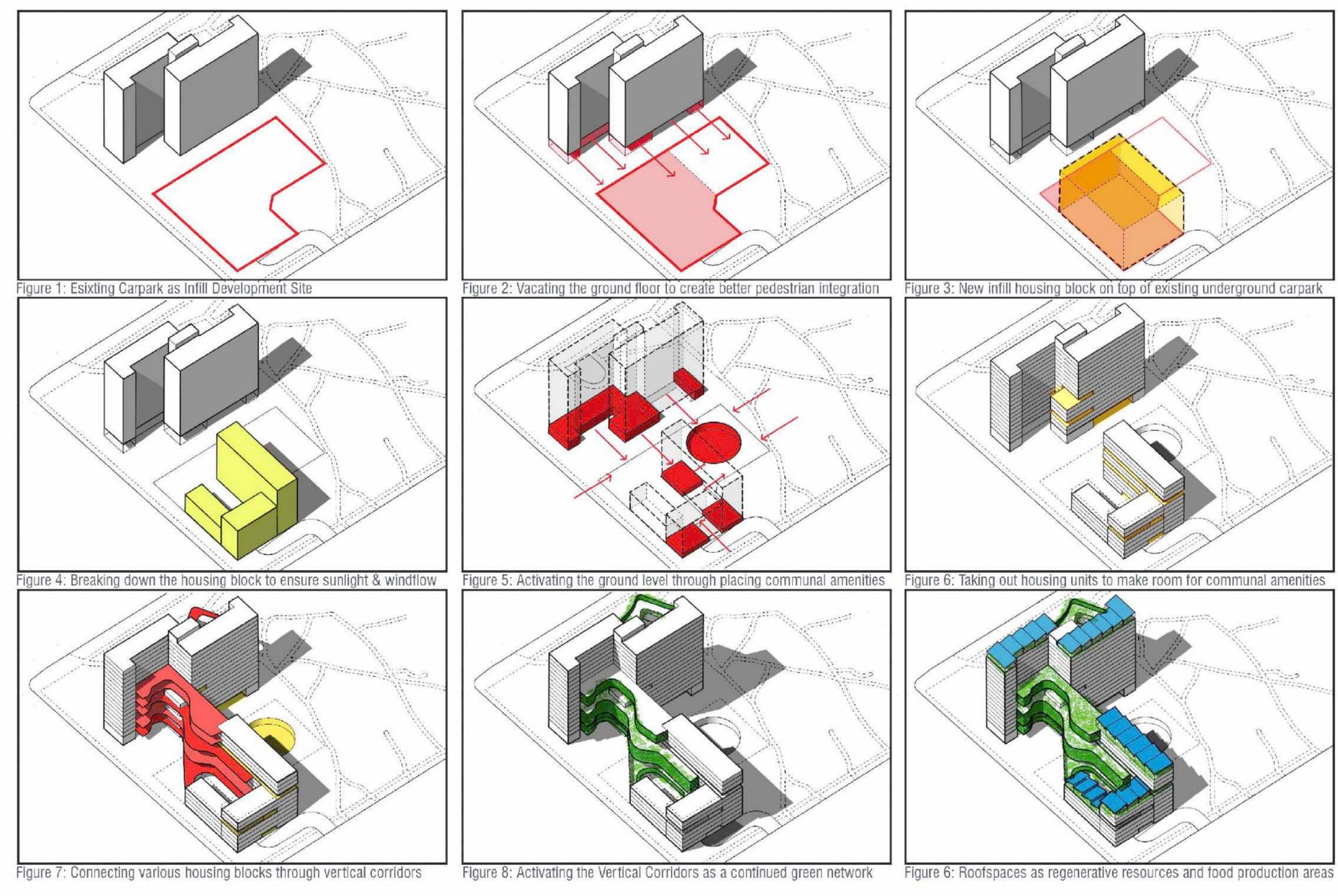
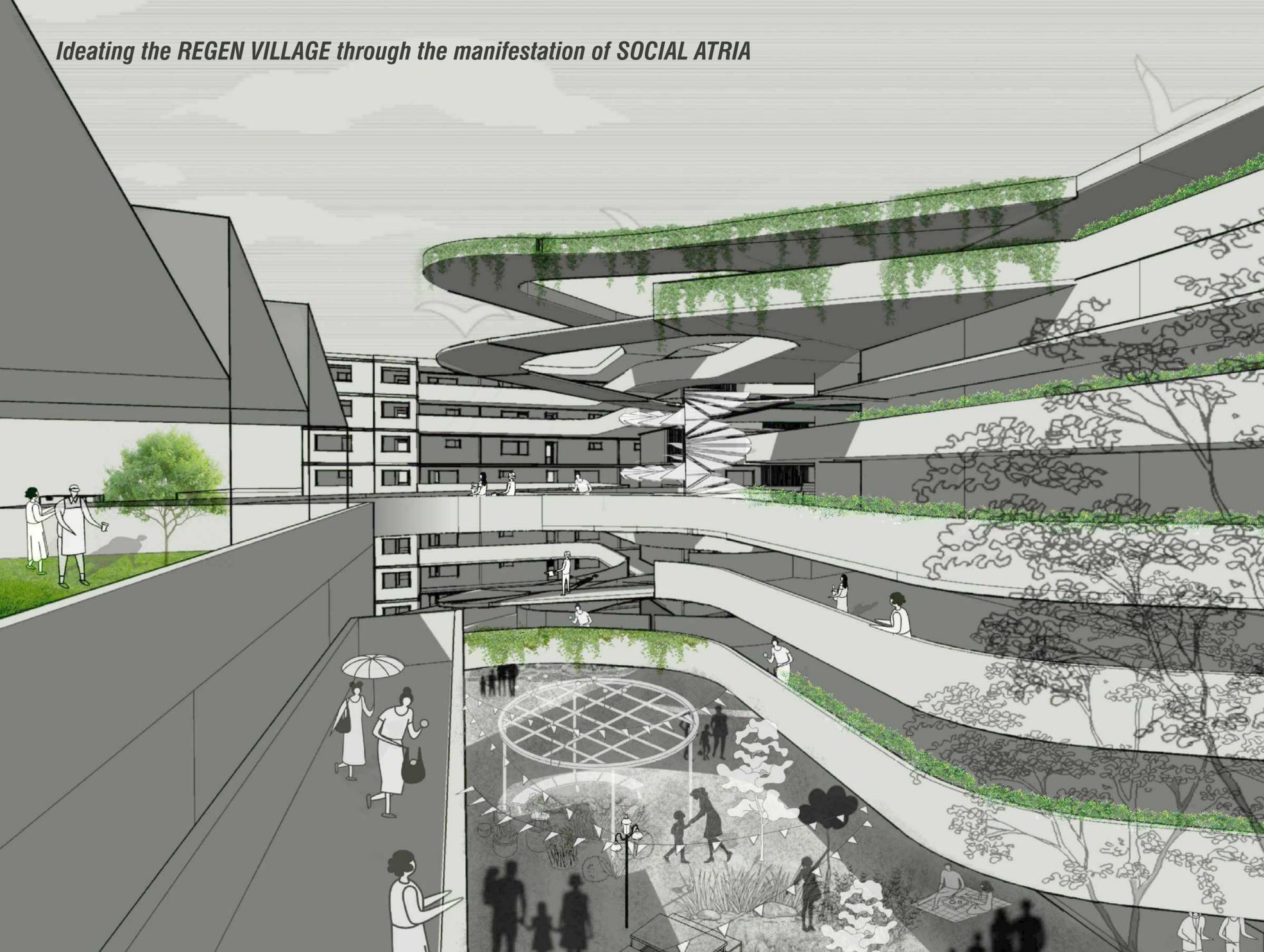
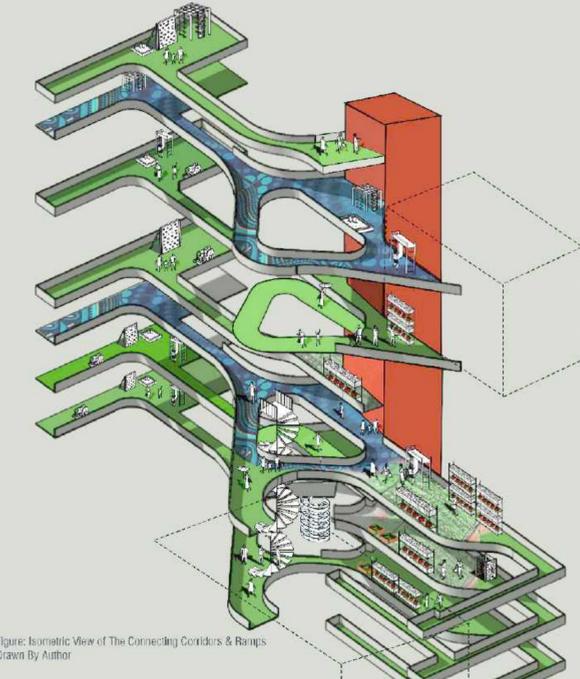


Figure 1: Existing Carpark as Infill Development Site
 Figure 2: Vacating the ground floor to create better pedestrian integration
 Figure 3: New infill housing block on top of existing underground carpark
 Figure 4: Breaking down the housing block to ensure sunlight & windflow
 Figure 5: Activating the ground level through placing communal amenities
 Figure 6: Taking out housing units to make room for communal amenities
 Figure 7: Connecting various housing blocks through vertical corridors
 Figure 8: Activating the Vertical Corridors as a continued green network
 Figure 9: Rooftops as regenerative resources and food production areas

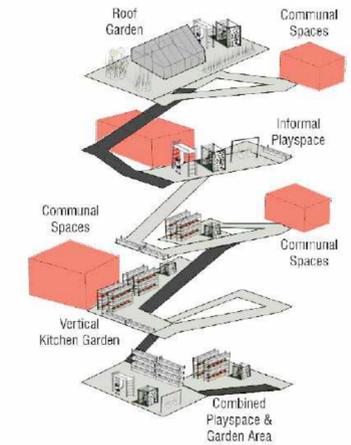
Ideating the REGEN VILLAGE through the manifestation of SOCIAL ATRIA



Ideating The Regen Village
 THE ACTIVATED GROUND: A VIBRANT URBAN PLAZA OF MARKETPLACE, EVENT ARENA, AND NATURE PLAY AREA



Ideating The Regen Village
 THE CORRIDORS: A CONNECTED NETWORK OF INFORMAL PLAYSPACES, GARDEN BEDS, & COMMUNAL SPACES



Ideating The Regen Village
 THE ROOFTOPS: A PLACE OF GREENHOUSES, RESOURCE GENERATION, & URBAN PARK



Praxis Studio

MAA600 September 2025 (on-going)

Course Tutor: Vuc Radovic & Sarrah Warren

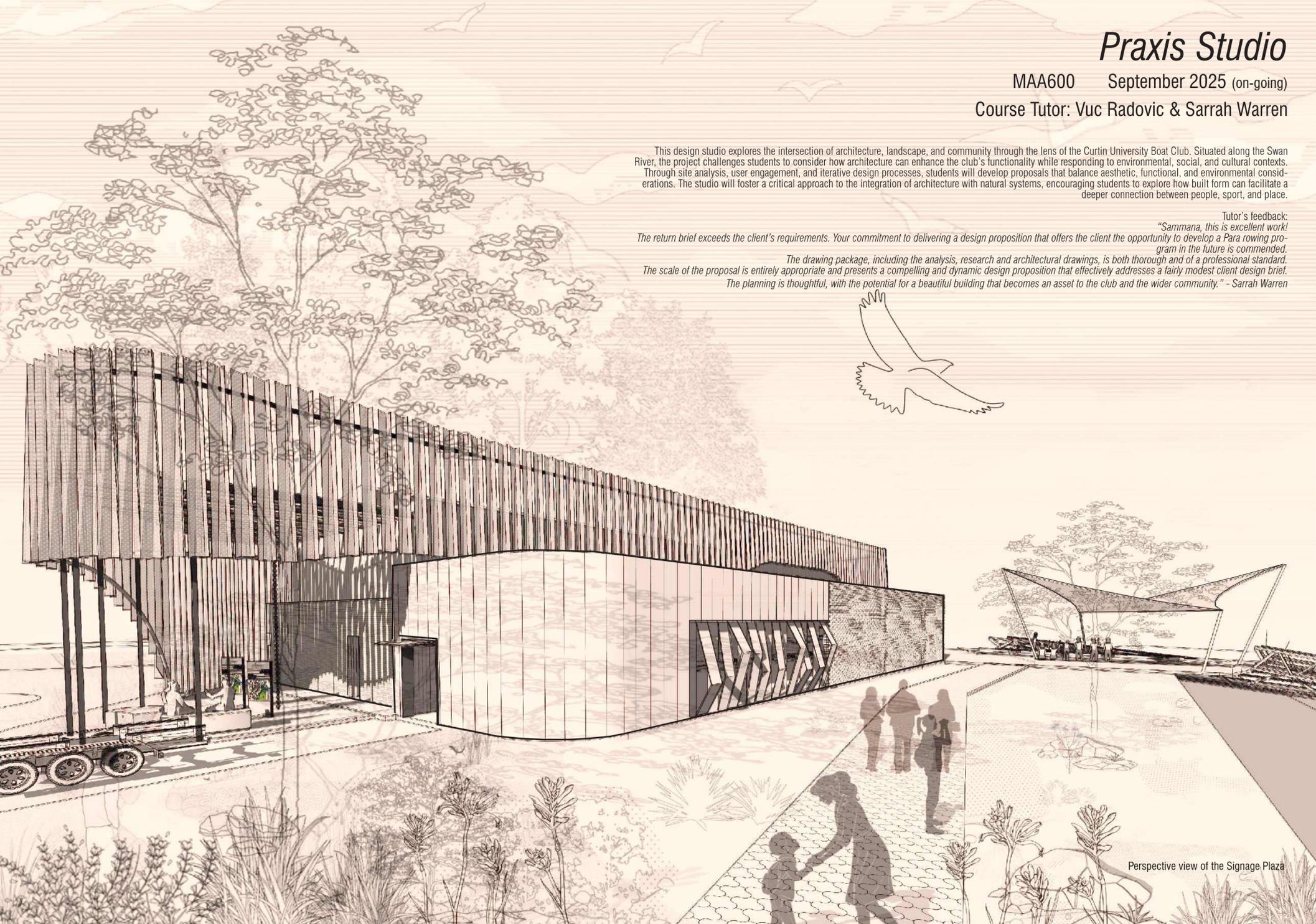
This design studio explores the intersection of architecture, landscape, and community through the lens of the Curtin University Boat Club. Situated along the Swan River, the project challenges students to consider how architecture can enhance the club's functionality while responding to environmental, social, and cultural contexts. Through site analysis, user engagement, and iterative design processes, students will develop proposals that balance aesthetic, functional, and environmental considerations. The studio will foster a critical approach to the integration of architecture with natural systems, encouraging students to explore how built form can facilitate a deeper connection between people, sport, and place.

Tutor's feedback:

"Sammana, this is excellent work!

The return brief exceeds the client's requirements. Your commitment to delivering a design proposition that offers the client the opportunity to develop a Para rowing program in the future is commended.

The drawing package, including the analysis, research and architectural drawings, is both thorough and of a professional standard. The scale of the proposal is entirely appropriate and presents a compelling and dynamic design proposition that effectively addresses a fairly modest client design brief. The planning is thoughtful, with the potential for a beautiful building that becomes an asset to the club and the wider community." - Sarrah Warren



Perspective view of the Signage Plaza

Introduction to project, client brief and site study

This Praxis Studio Project focuses on the Curtin University Boat Club (CUBC), located on the Canning River at the end of Elderfield Road, Manning. Built in 1970, the existing boat shed no longer meets the contemporary needs of its users. The project is to propose a revival and revisioning of the existing boat club building through renovation and extension of CUBC, which must address two key objectives:
 . Support high-performance athletes—CUBC has a strong professional training program.
 . Engage the broader community—the club aims to become more inviting to novices, children, and the general public.

A major component of this studio is the formulation of a concise, well-researched, and achievable return brief based on a thorough study of the client brief. This return brief should demonstrate a holistic understanding of the client's needs, translating the vague aspirational language into architectural clarity.

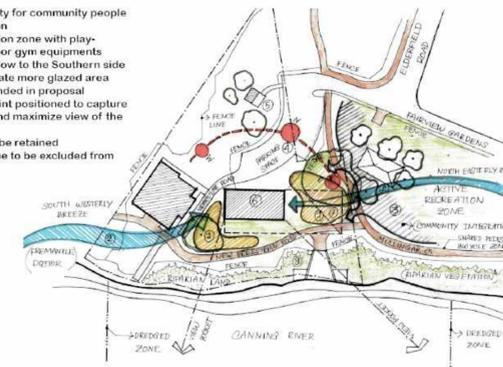
Along with the client brief, the foreshore masterplan for City of South Perth also has to be addressed to ensure any new development aligns with the vision of the masterplan.

Design Principles:

1. Genius Loci: Capturing the spirit of the site
2. Design language: A juxtaposition of rigidity & fluidity
3. Placemaking: Integrating communal spaces into the proposed design
4. Sustainability and passive design components

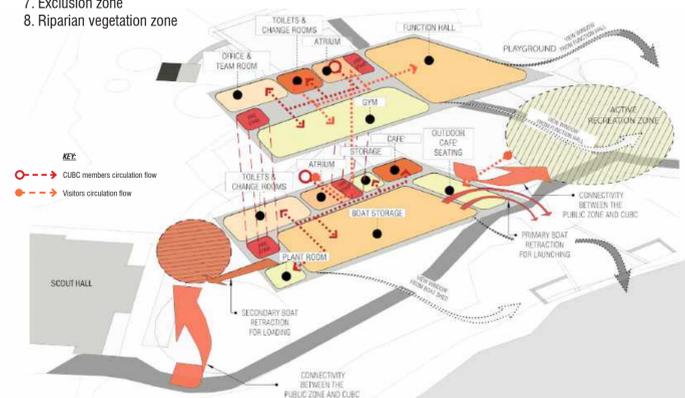
A synopsis of site analysis:

1. Placemaking opportunity for community people
2. Prevailing wind direction
3. Grassed active recreation zone with play-ground, BBQ and outdoor gym equipments
4. Sun path provides shadow to the Southern side of the building to facilitate more glazed area
5. Public toilet to be expanded in proposal
6. Existing building footprint positioned to capture the prevailing breeze and maximize view of the river
7. Pedestrian link road to be retained
8. Riparian vegetation zone to be excluded from any development

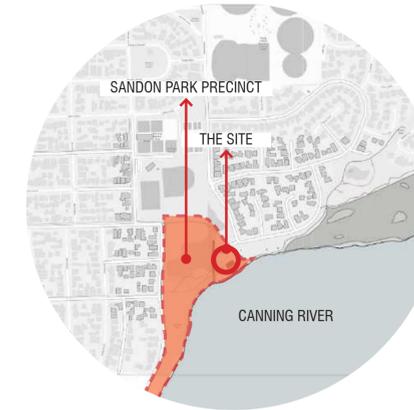


Identified key features from existing building and site analysis:

1. Community engagement, Interpretation & wayfinding
2. Prevailing wind direction
3. Active recreation zone
4. Sun path and shaded area
6. Building facing the riverfront
7. Exclusion zone
8. Riparian vegetation zone



Spatial flow and user movement through between the floors

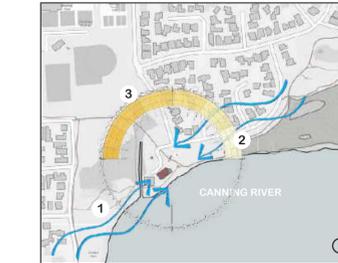


A Synopsis Of Client Brief & City Of South Perth Foreshore Masterplan:

1. The new CUBC building should be inviting not only to the club members, but to the surrounding local community members and broader Curtin University student & staff members as well.
2. Community facilities, i.e., a small cafe' kiosk, function hall, space for outdoor activities, as well as a small community gym should be incorporated within the functional requirements for the new development.
3. The building should be low-key in appearance and sympathetic to the surrounding natural landscape.
4. Increased boat storage, sanitary facilities, egress and fire safety design principles in line with the national standards and building codes.
5. Spatial layout and design elements that promote efficient rowing programs.
6. Enhance the existing site layout to cater for pedestrians, bicyclists, and local residents who visit the space regularly (i.e., wayfinding and signage, interpretation facility, seating or storycircles for small groups, seating arrangements to enjoy the riverfront along with birdwatching etc.).

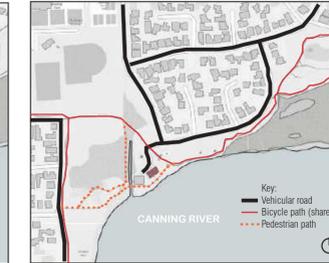
Site analytical layers

Prevailing local climate



- The site experiences South Westerly winds most of the year, with the strongest winds from the West occurring in the spring and early summer months.
- During summer, the famous "Fremantle Doctor" brings strong, gusty South Westerly sea breezes inland during the afternoon after a hot North Easterly wind prevails in the morning [2].
- The South Eastern facade, which is facing the riverfront is predominantly shaded all through the day due to its orientation, so it's ideal for placing functions that can enjoy the expansive river view.

Vehicular, pedestrian and bicycle road network



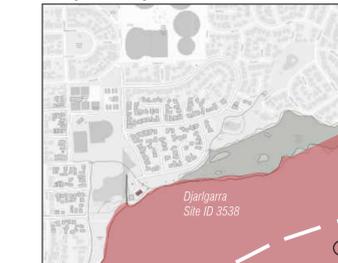
- Vehicular access to the site is through Elderfield road. The existing carpark is inadequate for combined usage by Curtin University boat club and Scout hall members, along with the local community.
- There is no public transport route crossing near the site so vehicular access is limited to private transport only.
- Pedestrian walking trail crosses the site along the foreshore along with a few benches to sit and enjoy the riverview.
- The shared bicycle and pedestrian route is mostly used by the local community and there is a growing call for speed restriction for pedestrian safety [3].

Existing tree species and vegetation zone



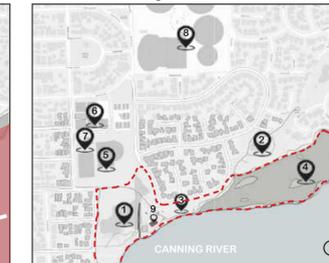
1. Mature Eucalyptus species
 2. Swamp paperbark
 3. Flooded blue gum
 4. Jacaranda
 5. A mix of different riparian species of Melaleuca, Casuarina, Swamp paperbark, flooded gum etc [3].
- Note: The wetlands occurring within the Waterford and Salter Point Reserves are recognised for considerable conservation and natural heritage value. The presence of trans-migratory bird species in these areas makes this area nationally and internationally significant [4].

Aboriginal heritage area



- The Canning river or Djirigarra (site ID 3538) is of high cultural and spiritual significance to all Nyoongar people, being the path created in dreaming by a great serpent spirit called Wakaal. This path (riverbed) should not be disturbed and whenever possible should be kept in their natural formation with vegetation composed of local species [5].
- The convict fence was constructed in 1866, during the convict era of W.A. and the remnants of the fence are clearly visible from the site.

Amenities and local government area

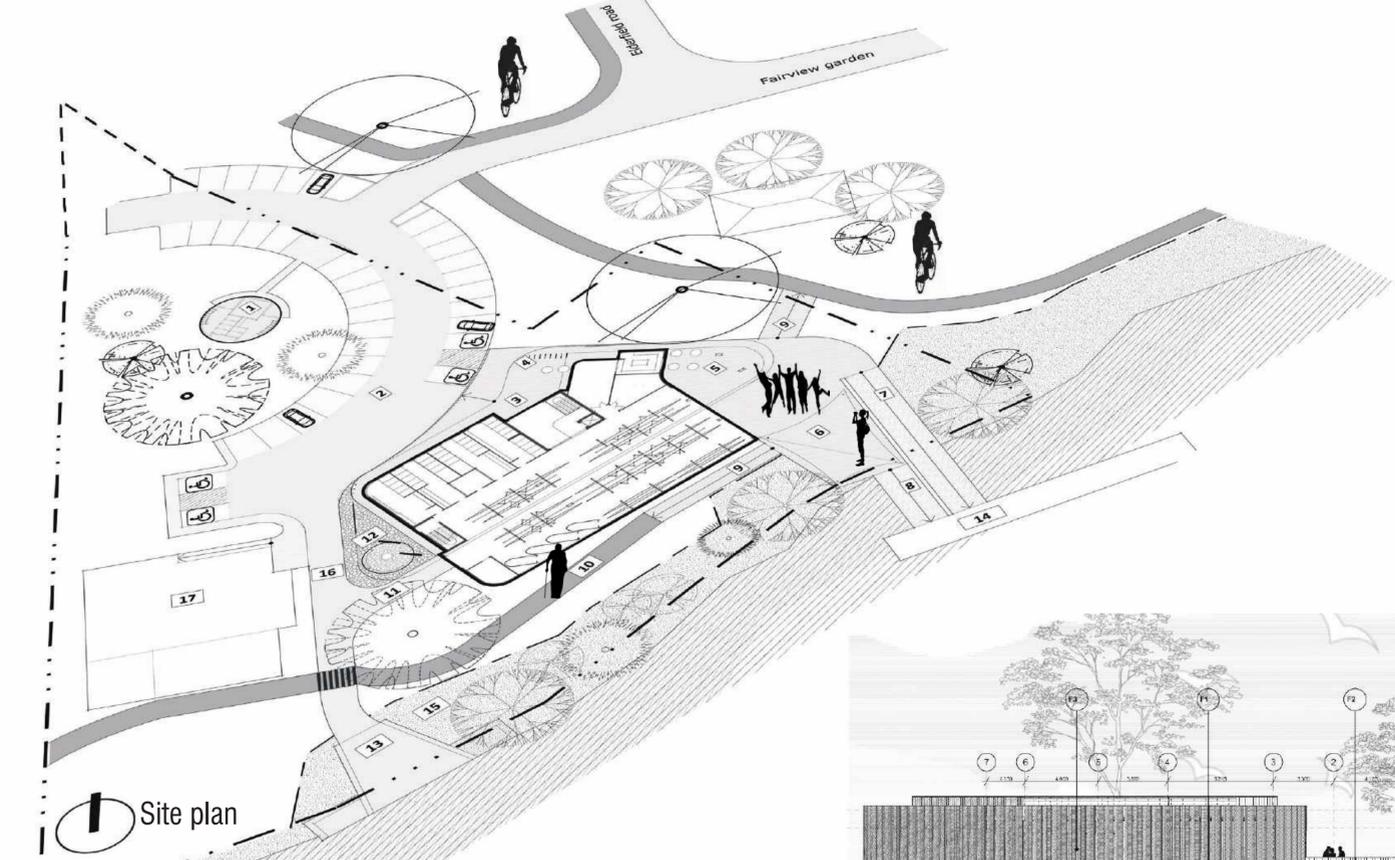


- Amenities in surrounding areas:
1. Sandon Park
 2. Bodkin Park
 3. Proposed active recreation hub
 4. Andrew Thompson conservation reserve
 5. Challenger reserve
 6. Sports club hub
 7. Soccer club
 8. Trinity playing fields
 9. Proposed site

Future projection: Recreation hub & connectivity

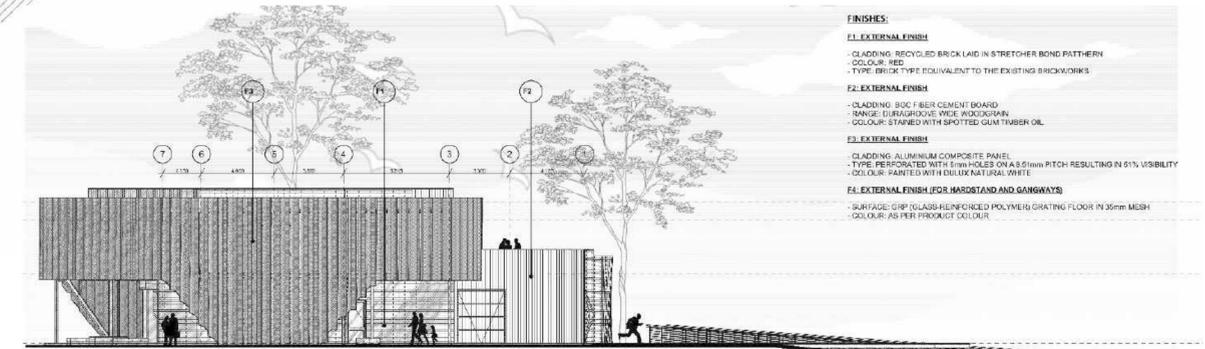


- The active recreation zone as described in the "CHSM" is the grassed turf beside the CUBC site along the walking-bicycle trail. The site currently consists of a playground, BBQ facility, waste bins and outdoor gym equipments. The proposal is to enhance these facilities for the local community to enjoy alongside the riverfront.
- The proposed bus route as outlined in the client brief will connect the CUBC site with Curtin University campus for easy commute.



- Key:**
- Proposed new public toilet with accessible toilet.
 - proposed parking lot with increased capacity.
 - Front public plaza (with bicycle stand, cafe seating etc.).
 - Bicycle stand.
 - Public plaza (with cafe seating and serviette window).
 - Outdoor boat handstand (can be doubled up as birdwatching deck, outdoor event space etc.)
 - Accessible ramp with 1:14 slope.
 - Gangway with 1:8 slope.
 - Accessible ramp with 1:14 slope from deck to ground level.
 - Existing pedestrian pathway.
 - Proposed vehicular access road to boat storage area for loading and unloading purposes.
 - Signage plaza for cultural/ heritage interpretation, wayfinding, and communal gathering purposes.
 - Proposed location of boat ramp for public vehicular access
 - The pontoon designed as per para rowing design guideline.
 - Fenced riparian vegetation zone
 - Existing vehicular access road
 - The Scout hall

Site plan



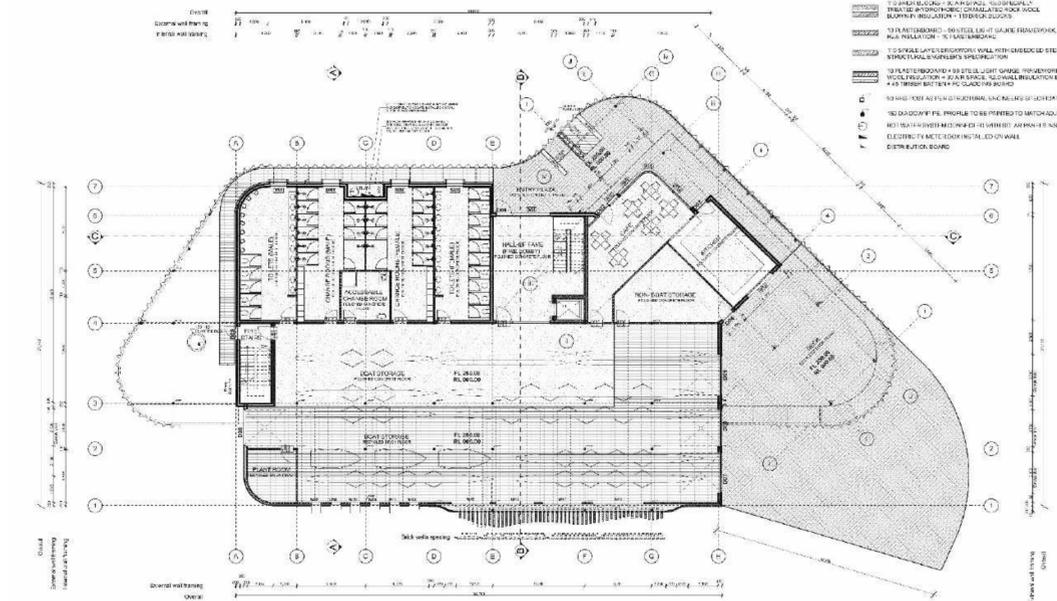
WEST ELEVATION



SOUTH ELEVATION

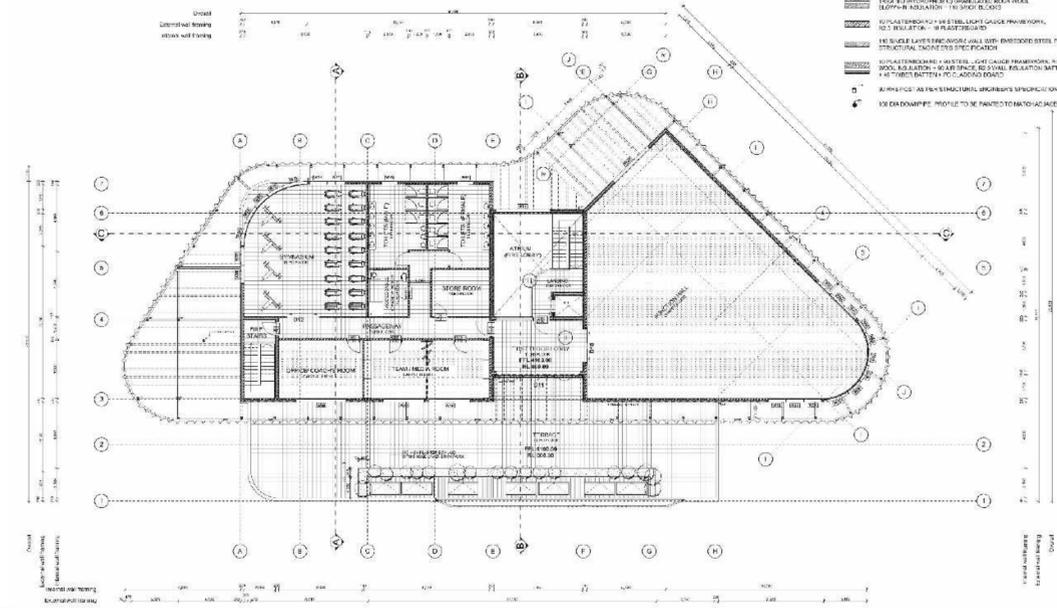
- FINISHES:**
- F1. EXTERNAL FINISH**
 - CLADDING: RECYCLED BRICK LAY IN STRETCHER BOND PATTERN
 - COLOUR: RED
 - TYPE: BRICK TYPE EQUIVALENT TO THE EXISTING BRICKWORKS
- F2. EXTERNAL FINISH**
 - CLADDING: 600 FIBER CEMENT BOARD
 - FINISH: SUBSTITUTIVE VENE, WOODGRAIN
 - COLOUR: STAINED WITH SPOTTED GUM TIMBER OIL
- F3. EXTERNAL FINISH**
 - CLADDING: ALUMINUM COMPOSITE PANEL
 - TYPE: PERFORATED WITH 6mm HOLES ON A 50mm PITCH RESULTING IN 51% VISIBILITY
 - COLOUR: PAINTED WITH DULUX NATURAL WHITE
- F4. EXTERNAL FINISH (FOR HANDSTAND AND GANGWAYS)**
 - SURFACE: GRIP GLASS REINFORCED POLYMER GRATING FLOOR IN 35mm MESH
 - COLOUR: AS PER PRODUCT COLOUR

Ground floor plan
Scale - 1: 300

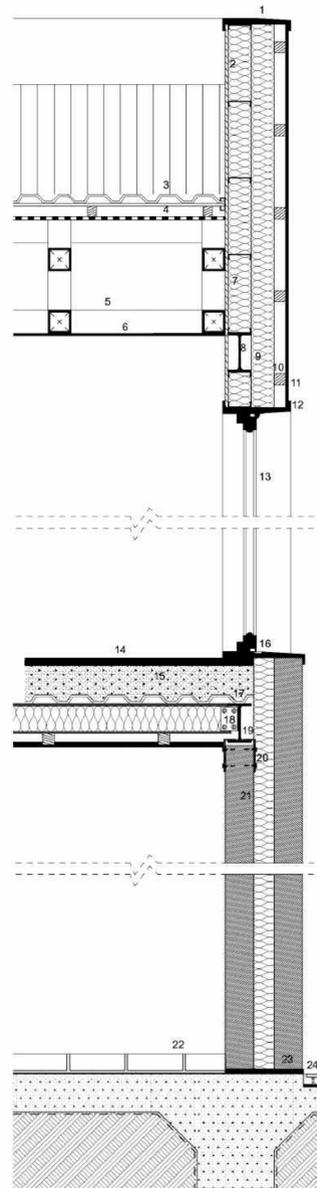


- LEGEND**
- 1. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 2. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 3. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
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 - 5. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 6. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
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 - 12. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 13. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 14. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 15. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 16. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 17. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH

First floor plan
Scale - 1: 300

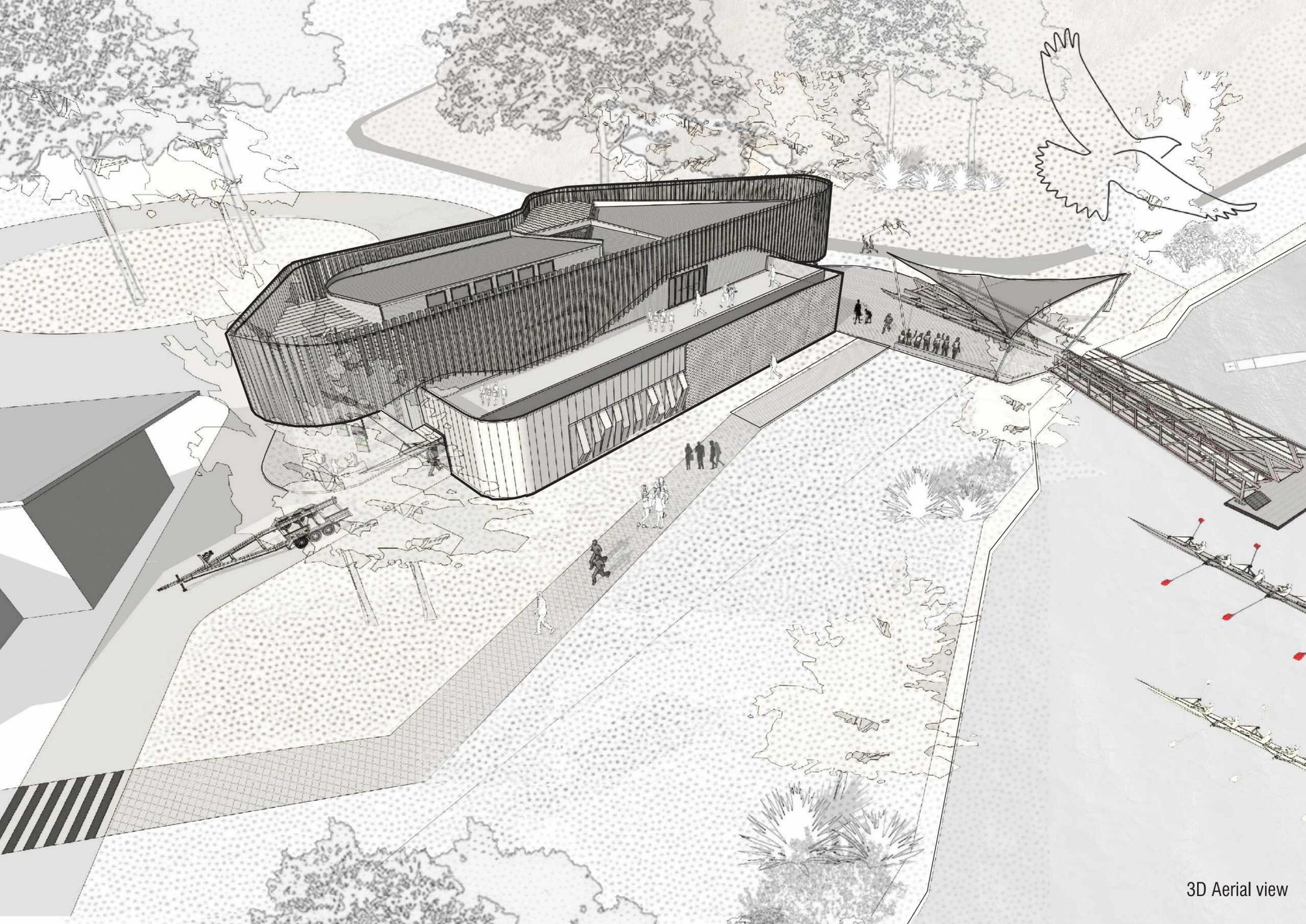


- LEGEND**
- 1. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 2. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 3. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 4. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 5. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 6. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 7. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 8. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 9. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 10. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 11. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 12. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 13. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 14. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 15. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 16. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH
 - 17. 10 SHEET BLOCKS - 8.4M SPACE, 10.0M DEPTH

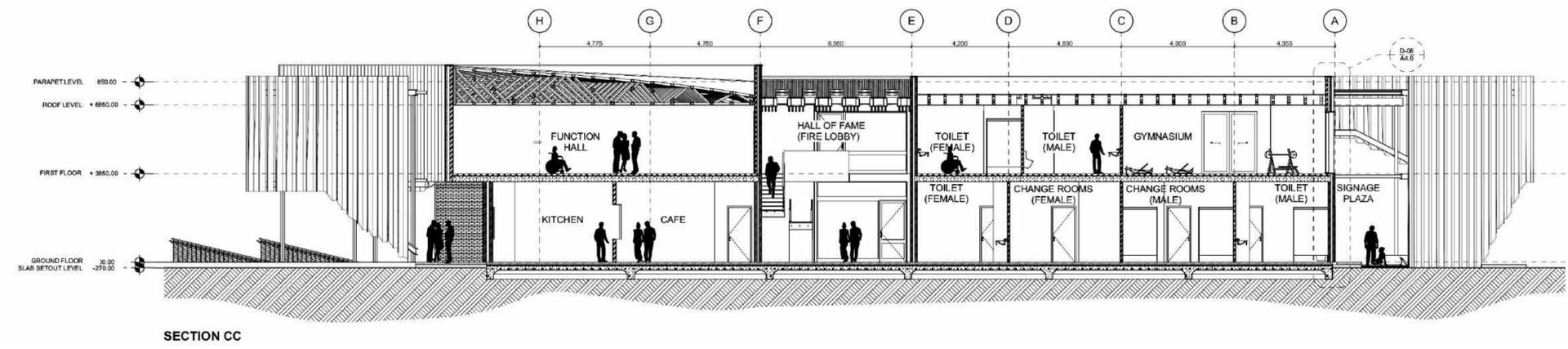


- KEY ANNOTATIONS:**
- METAL ROOF FLASHING
 - 600 HIGH PARAPET WALL
 - SHEET METAL ROOF PANEL ON 45 X 45 PURLINS
 - GREATABLE SARKING PANEL AND VAPOUR BARRIER
 - LIGHT STEEL ROOF TRUSS WITH 1.5 INFILL MINERAL WOOL INSULATION
 - FIBER CEMENT CEILING BOARD
 - LIGHT STEEL FRAMEWORK WITH MINERAL WOOL INSULATION
 - STEEL SPANDREL GIRDER BEAM, I- SECTION
 - 90mm R2.0 INSULATION BOARD
 - 45X 45 BATTENS
 - FIBER CEMENT CLADDING BOARD
 - METAL WINDOW FLASHING
 - DOUBLE GLAZED WINDOW WITH ARGON INSULATION AND AIR GAP BETWEEN 5mm LOW-E CLEAR GLASS PANELS, WITH U VALUE < 2.0, SHGC < 1.8.
 - FINISH FLOOR MATERIAL WITH ACOUSTIC SUB FLOOR INSULATION BOARD
 - CONCRETE SLAB ON METAL DECK
 - WATER DRAINAGE CHANNEL EMBEDDED IN METAL WINDOW FLASHING PANEL
 - WATER DRAINAGE CHANNEL EMBEDDED IN METAL WINDOW FLASHING PANEL
 - STEEL SPANDREL GIRDER BEAM, I- SECTION
 - CLIP ANGLE CONNECTING GIRDER BEAM WITH STEEL UNDER FLOOR BEAM, I- SECTION
 - STEEL PLATE CONNECTOR TO TRANSFER SHEAR LOAD, BOLTED INTO BRICKWORK WITH STEEL BOLTS
 - 2 LAYERS OF 110 STANDARD BRICK WALLS WITH R3.0 BLOW-IN GRANULATED HYDROPHOBIC ROCKWOOL INSULATION
 - TREATED RECYCLED BRICK FINISH FLOORING
 - LAYER OF MORTAR BETWEEN BRICKWORK AND CONCRETE SLAB
 - EMBEDDED FLOOR DRAINS ADJACENT TO EXTERIOR WALL TO CARRY AWAY RAINWATER/ DISCHARGE FROM WEPEHOLE
 - RECYCLED BRICK TREATED PAVING
 - CONCRETE SLAB

General facade system, as a combination of masonry wall (ground floor), and light weight steel framed wall (first floor), along with slab details and surface water drainage system

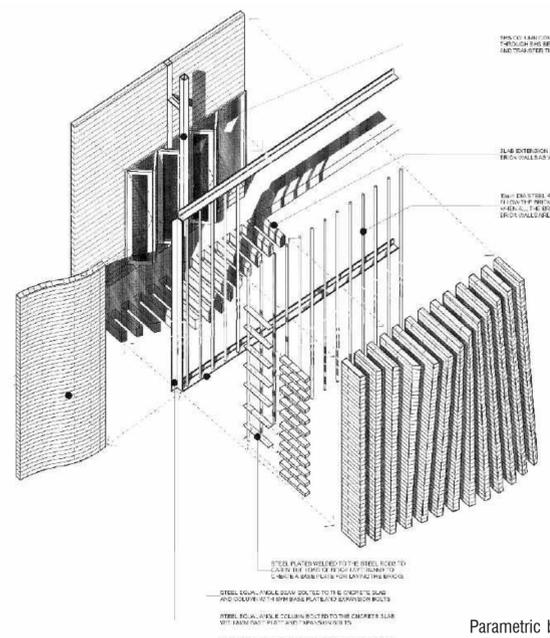


3D Aerial view

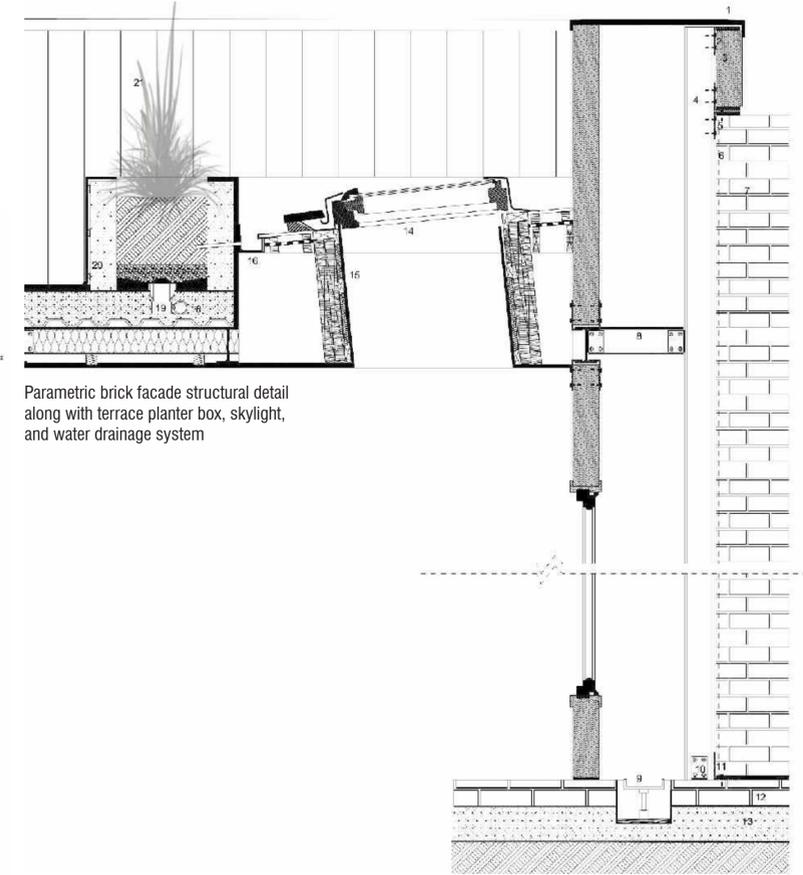




Perspective view of the Outdoor cafe seating, deck, and boat hardstand area

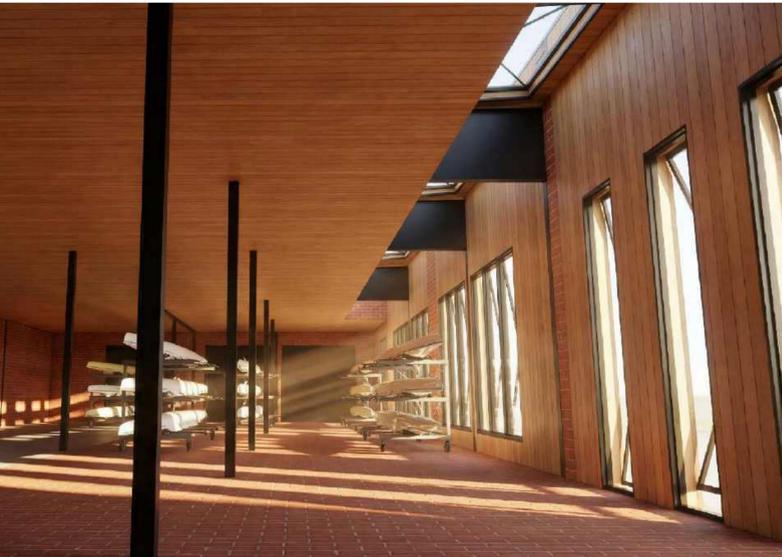


Parametric brick facade structural detail axonometric drawing



Parametric brick facade structural detail along with terrace planter box, skylight, and water drainage system

- KEY ANNOTATIONS:**
1. METAL ROOF FLASHING
 2. STEEL PLATE CONNECTOR TO TRANSFER SHEAR LOAD, BOLTED INTO BRICKWORK WITH STEEL BOLTS
 3. 110 STANDARD BRICK WALL
 4. 120 SHS COLUMN
 5. STEEL ANGLE TO SUPPORT THE LOAD OF THE PARAMETRIC BRICK WALLS AS WELL AS PROVIDING HORIZONTAL SUPPORT FOR THE STRUCTURAL SYSTEM, CONNECTING THE COLUMNS TO TRANSFER LOAD
 6. 10mm DIA STEEL RODS WELDED TO STEEL ANGLE TO ALLOW THE FIRST LAYERS OF BRICKS TO SLIDE ONTO THEM AND IS HIDDEN BETWEEN BRICKWORKS
 7. 110 STANDARD BRICK WALL WITH MORTAR IN BETWEEN LAYERS OF BRICK
 8. STEEL CONNECTOR BEAM TO TRANSFER SHEAR LOAD AS WELL AS BRACING THE STRUCTURAL SYSTEM
 9. IMPROVED FLOOR DRAINS ADJACENT TO EXTERIOR WALL TO CARRY AWAY RAINWATER/ DISCHARGE FROM WEEP HOLE
 10. CLIP ANGLE CONNECTING GIRDER BEAM WITH STEEL UNDER FLOOR BEAM I-SECTION
 11. STEEL ANGLE TO SUPPORT THE LOAD OF THE PARAMETRIC BRICK WALL AS WELL AS PROVIDING HORIZONTAL SUPPORT FOR THE STRUCTURAL SYSTEM, CONNECTING THE COLUMNS TO TRANSFER LOAD
 12. RECYCLED BRICK TREATED PAVING
 13. CONCRETE SLAB WITH WATERPROOFING MEMBRANE UNDERNEATH
 14. OPERABLE SKYLIGHT ON 2° PITCH METAL ROOFING WITH INTEGRATED GUTTER FOR WATER DRAINAGE
 15. FIBER CEMENT LINING PANEL AS A CONTINUATION OF GROUND FLOOR LINING PANEL TO CREATE A SEAMLESS LOOK
 16. BOX GUTTER TO CARRY AWAY RAINWATER FROM 2° PITCH METAL ROOFING WITH DOWNPIPE DISCHARGING INTO THE PLANTER BOX
 17. WATERPROOFING WITH TRAFFIC MEMBRANE BENEATH STACK OF GRAVEL
 18. DRAINAGE CHANNEL TO CARRY AWAY ACCESS WATER
 19. SELECTED FLOOR GRATING TO CARRY AWAY ACCESS WATER
 20. CONCRETE WALLED PLANTER BOX WITH TIMBER LINING BOARD
 21. FIBER CEMENT CLADDING BOARD paneled parapet wall



Revisoning Garran-carramulk, NAARM (Abbotsford, Melbourne)

BURNDAP BIRRARUNG BURNDAP UMARKOO (good for Yarra is good for all)

Urban Design Studio

MAA520 March 2025 Course Tutor: Justin Owen & Darcy Rankin

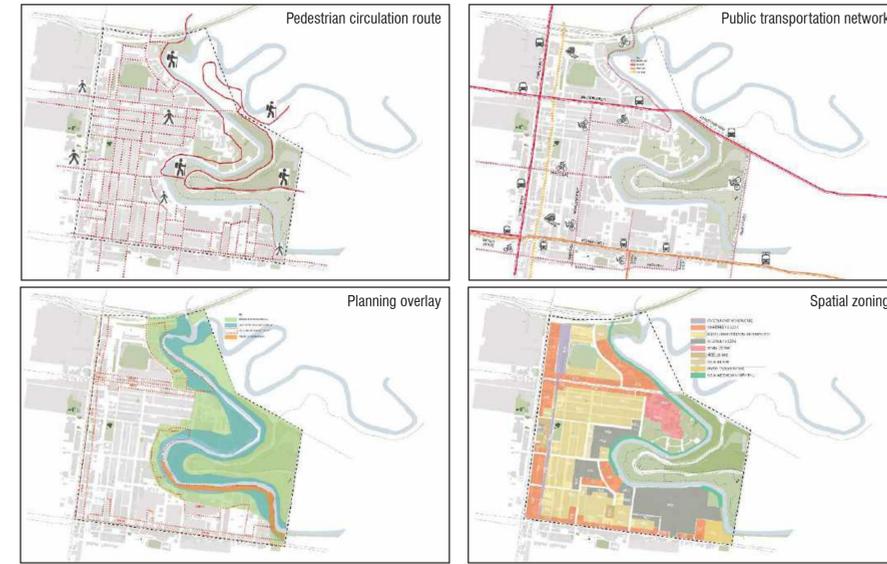
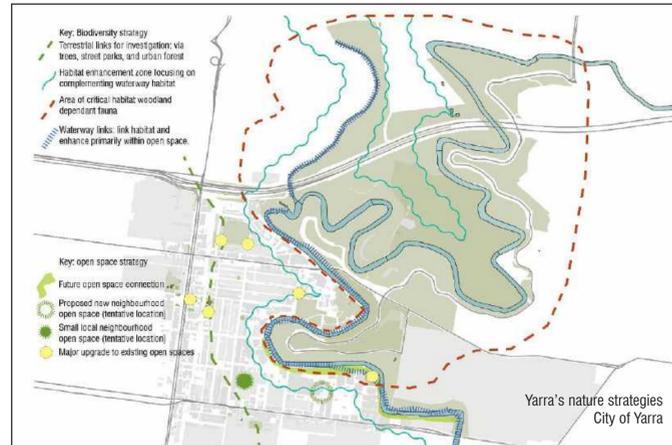
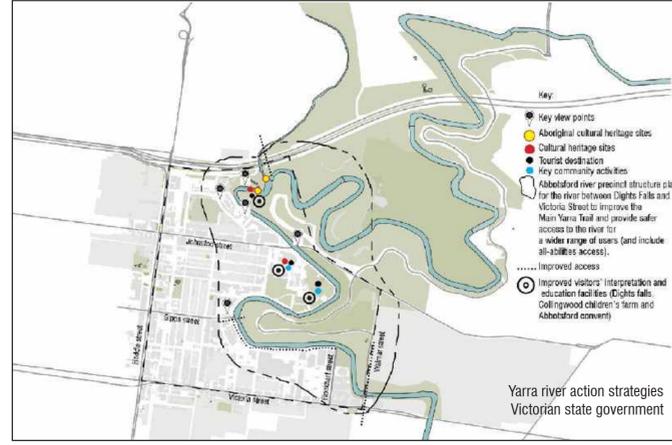
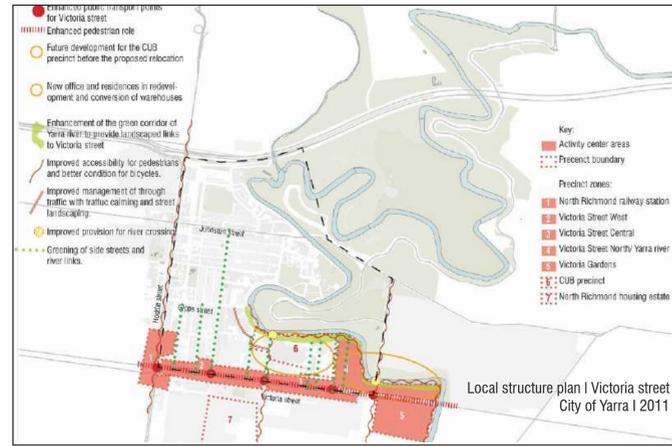
This Studio explored Country Centred Urban Design techniques, methodologies and practice. We worked together to explore the Country where we live. We studied and consulted Indigenous Knowledge holders and other members of the Community to explore an alternative to the colonial practices embedded in the normative operations of urban design practice in Western Australia. The Studio involved re-thinking our approach to design, deep listening and explore relational methods of radical design and process in urban design. Central to Country Centred Urban Design is the understanding that humans are not the focal point of existence; instead, urban spaces should recognise the systemic dependency of all elements of the biosphere. This perspective fosters sustainable and culturally rich environments by acknowledging and positioning the primacy of Indigenous narratives, practices, and ecological knowledge within the urban fabric.

Our site in Abbotsford is located 5kms NE from Melbourne CBD and is outlined by Eastern freeway, Yarra bend park, Victoria street and Hoddle Street. The site has been chosen for its diversity in so-cio-economic population, aboriginal heritage and extensive urban parklands. The site includes a large residential area comprised of commission housing and higher end residential. Bordered by a commercial area to the east of the site, and retail present to the south. The Yarra River and park lands along with Abbotsford convent are prominent ecological features of the site, which contain aboriginal cultural heritage sites and an abundance of native flora and fauna.

Tutor's testimonial:

"Well done Sammana, your work is at a really high standard and you demonstrate a fantastic capacity for independent, self-driven work covering all the bases we outline in terms of rigorous design research at the urban scale. Your notion of a green network is really good! Thank you for engaging so deeply with the unit it is fantastic. I like how you have developed an approach that combines strengths of multiple ways of working. Well done!" - Darcy Rankin

A summary of Systemic site analysis



Identifying an area of operation

To reflect my individual value

From Chronology of damage

Following the Industrial era of Melbourne, numerous industries were sprouting all along the Yarra corridor for easy access to water, which in turn polluted the river beyond measure and caused mass devastation to it's ecological health, loss of biodiversity, and wide range of climate issues.

Post-colonial industrial era

Land was subdivided into smaller blocks for dense residential buildings, although areas immediately surrounding the river were still relatively untouched/ harmed.

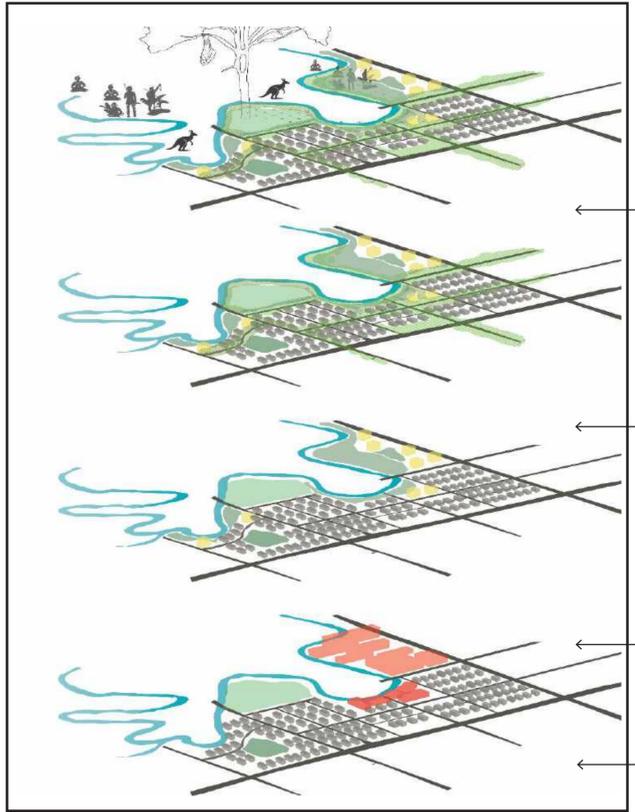
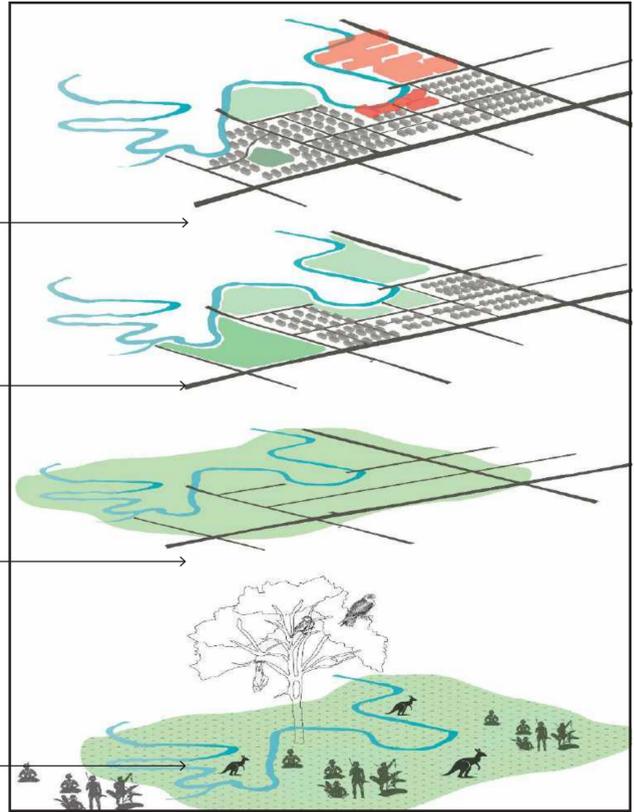
Colonial time period

Laying down the Hoddle grid after the treaty with the Kulin nation, came with grave consequences as it resulted in dispossession and displacement of Aboriginal people through land allotment and subsequent auction for sale.

Establishing colonial grid

This area was an important site for Woiwurrung clans, in particular the local Wurundjeri people. The river provided water, fish, eels, mussels, waterbirds and eggs. On the river flats were kangaroos, wallabies and emus, and in the trees possums to be hunted and roasted. Edible root plants could be harvested. At times of the year when food was abundant, other Aboriginal groups came here for social and ritual purposes.

Pre-colonization era



To Chronology of restoration

Finally, a series of bottom-up, community led initiatives to "form a network of green axis" should be undertaken and facilitated to re-establish the relationship between Birrarung and it's people. We have seen numerous examples of how spatial agency from local community can generate localized, need based solutions that is otherwise neglected in top-down approach. A strong local-Aboriginal network is necessary for the upkeep of the river management because as described in "Nourishing Terrains" by Deborah B. rose, degradation is seen as non-use rather than overuse. As long as the river is visited and being looked after by it's original custodians along with the newer inhabitants, the overall ecological health of river will be secured.

A Bottom-up, decentralized urban revitalization

Next, an Indigenous-led urban water renewal project should be carried out in collaboration with various policy makers, local stakeholders and community groups to restore the health of river in it's original state. A caring for Country protocol (A framework of such co-design approach is outlined in "An approach for engaging with Country" by Dr. Daniele Hromek) should be established for proper engagement with local Wurundjeri WoiWurrung Cultural Heritage Aboriginal Corporation which will uphold Victorian Government's commitment to enabling self-determination. The Victorian Aboriginal Affairs Framework (VAAF) describes the process of enabling self-determination as a continuum that moves from informing Aboriginal communities through to transferring control.

A Country centered, Indigenous-led approach to urban water restoration

The first phase of change needs to come from a top-down, centralized approach. Local government along with state authorities should rethink and reform policies for better zoning regulations which will ban industrial and heavy commercial development from river banks and promotes appropriate use and structural regulations. This decision making process should be based on a broader, whole of river scale interrogation of current ecological relationship between different bioregions (examples narrated in "Design with Nature" by Ian L. McHarg). Similarly, stormwater management and other climate resiliency frameworks should be introduced in line with the degree of attention required to stop the pollution of river water.

A top-down, centralized framework

Dense industrialization of the riverbank restricts access to the river from surrounding residential and neighbouring communities. As a result, a strong, day to day relationship is missing between Birrarung and it's people, which in turn makes people think of Birrarung as nothing more than a resource to exploit.

Current situation

An approach to practice
Individual reflection of value based on understanding of site and Identifying an area of operation

Individual value statement

"Understanding Birrarung as a living entity, the lifeline and integral part of Country".

The river "Birrarung" or Yarra, was a river of clear water in pre-colonial times [1]. Aboriginal peoples have always had a strong spiritual connection with the river's land and waterways which was a dreaming path they followed [2]. However, nowadays the river is often derisively called, "the upside down river", because of it's cloudy, clay-filled water. The settler-colonial intensive land clearing and subsequent development, especially during the industrial era, turned the river into a muddy sewage with the "consistency of very weak gelatine" [4]. Post settler-colonial culture of seeing the river as a resource rather than a living entity with rights of her own didn't make things any better [1]. As Libby Porter argues in her research article, Country under colonisation is cast as passive, silent and inert, existing only to be exploited for it's resources [5] and clearly, the settler colonial urbanization has failed to see Country as a place that "gives and receives life" [6].

The question is then, how to make Birrarung the focal point of all future urban development and an integral part of the urban Country instead of keeping the river as a backdrop for urban densification where people have collectively turned their back to the river [1].

To answer that, we would like to propose that a rethinking of traditional top-down approach is required. As we read in "Design in Nature", when the author was approached to advise on selecting open spaces for Philadelphia metropolis; he launched a wide cast study of regional topography, typology of water resources etc. to understand the suitability of land use for the broader bio-region instead of the metropolis only, as local law and zoning regulation don't readily consider the value system of nature, resulting in urban growth that is unresponsive to natural processes and their values [7].

Interestingly, aboriginal people of Australia have lived for thousands of years fostering these intricate natural value systems within Country [6]. Hence, we can argue that, a restructure of colonial anthropo-centric zoning and master planning of riverfront is required to put "caring for Country" as the focal point of interest. To achieve that a respectful integration of indigenous perspective into common urban top-down practice is necessary as outlined in "engaging with Country" by Daniele Hromek, which states that determination of human activities should derive from the capacity of a healthy bio-region [8] and new economies and infrastructure should be established based on socio-cultural and ecological values.

Moreover, a 'culturally safe zone' should be established along the entire length of the river, for the river's original custodians to start the healing and renewal process. Arguably, in doing so, it can turn into a "third space" as described by Zane Davey [9], as a contact zone between local authorities and first nations people to create genuine collaboration; and effectively longstanding colonial narrative of urban space being exclusively settler space where aboriginal people are marked as "out of place" [5].

This broader framework of council policy and aboriginal land management practices, lies the niche for spatial agency of local community. Based on their collective lived experience, local community can identify areas of further integration and in doing so, diminish the settler-colonial induced "othering" of aboriginal people [9].

In conclusion, a co-design team comprising of community groups and planning policy stakeholders, under the leadership of aboriginal custodians; should work together to secure the river's footprint including it's riparian flood prone zones to create a "coming together place" for all human and non-human species. A continuous network of this corridors can weave through the existing colonial grid to provide holistic, "whole of river" outcomes and blur the superimposed colonial grid in the process.

Aerial view of proposed Gipps street precinct redevelopment area masterplan

Key Legends:

1. Bicycle parking space
2. Public seating benches with tree canopy
3. Book swapping library
4. Outdoor cafe seating & food stalls through reuse of old heritage building previously used as tyre shop
5. Downsized car parking with EV car charging and Accessible car parking spaces
6. New green space with shading trees and native understory plants for creating fauna stepping stones towards Gahan reserve
7. Waiting benches or seating area for the railway commuters with canopy trees to create a wide and welcoming corridor from Gipps street
8. Aboriginal street paints on the new plaza to create a sense of place and invite people towards the townhall and library precinct.
9. Repurposed heritage Victorian cottages into groundfloor shopfronts with upper level set back multi storey residential block



Narrator: Jeremiah Abdi, a rail commuter to work



I remember the time when I used to drive my car to the Collingwood train station and spent a long time to find a suitable parking spot before I could catch the train. Now, however, commuting has become a breeze! Since the Gipps street revitalization with its spacious bike lanes and pedestrian roads (Thanks to the now one-way vehicular lane!), I have been using my bicycle to ride to the train station which is newly equipped with a large bicycle parking space (1). Now, I am mostly ahead of time to the station so I can take a breather on the newly installed benches under the shadow of big canopy trees (2). I have made some new friends as well who also commute to work from Collingwood station. Nowadays, people mostly walk or ride their bicycle to station instead of driving their cars. So, there's more chance to meet and mingle with other locals.

Today, I started a bit earlier than usual because I am hoping to swap one of my books from the book swapping library just outside of Collingwood public library (3). My friends and I have been swapping books alongside borrowing from the library for years now. It creates the opportunity to give my old books a new life and creates an even more enriching reading experience than the library could offer before.

Some days, especially on Fridays, I linger a bit more than usual in the station precinct to hang around with my other commuter friends. The multi-cultural cuisine from the cafes alongside Gipps street are some of the bests that I have tasted. It's very convenient too. I normally go to the old heritage building that was used as a car tyre shop before, but now it's been converted into an outdoor eatery with foodstalls which caters Vietnamese, Greek, Italian, Chinese and Ethiopian cuisines (4). Since, I am originally from Ethiopia, I frequent the Ethiopian stall and eat outside of the stalls under the twinkling fairytales. It's a really vibrant and fun space to spend the Friday evenings in. Since, it's so close to the bike parking space, I just take my parked bicycle from there when I am ready to go home and don't have to worry about the fines even if I am a tiny bit topsy!

Plan : proposed Townhall precinct revisoning
Scale- 1: 500

3D visualization of Townhall precinct revisoning

(The connection between Collingwood railstation and Gipps street is enhanced through a widened corridor, achieved by removing the existing unused commercial single storey building. The Townhall, library and railstation precinct is designed to cater for the railway commuters, especially the pedestrian and bicycle riders. The old heritage building which is currently being used as a tyre shop is repurposed and reused as a food court with outdoor seating area to invite people in towards the library building. The new designed plaza is dotted with shady trees as well as bordered by greenscapes and adorned with Aboriginal street art to create a sense of place and belonging)



The Urban living lab

(The urban living lab is designed through adoptive re use of the existing large scale commercial and industrial buildings. The existing townhouses directly adjacent to the river Yarra are removed due to its proximity and obstruction of physical and visual access to the riverfront. The existing commercial and industrial buildings are then extended vertically to make room for increased housing units to cater for the growing need. The ground floors are utilized as local retail, eatery and small business fronts. The rooftop carspace connecting the buildings are converted as green roofs to be used for recreational purposes, as an upper level urban space.

The existing mature trees among the townhouses are retained to be part of the newly constructed wetland ecosystem with the wetland and its surrounding riparian vegetation. The main purpose of the living lab precinct is to direct people towards the river, to learn about its importance as our lifeline, from the revitalization of the surrounding riverscape. As well as to become a space for urban idea generation, collaboration and implementation among various community groups, stakeholders, local and Aboriginal groups, and council members. It will provide space for local recreational, communal and educational purposes too.

The adjacent heritage factory building has been converted into townhouses with a green park in between to provide a connection from Nicholson street and browns reserve playground towards the living lab precinct.

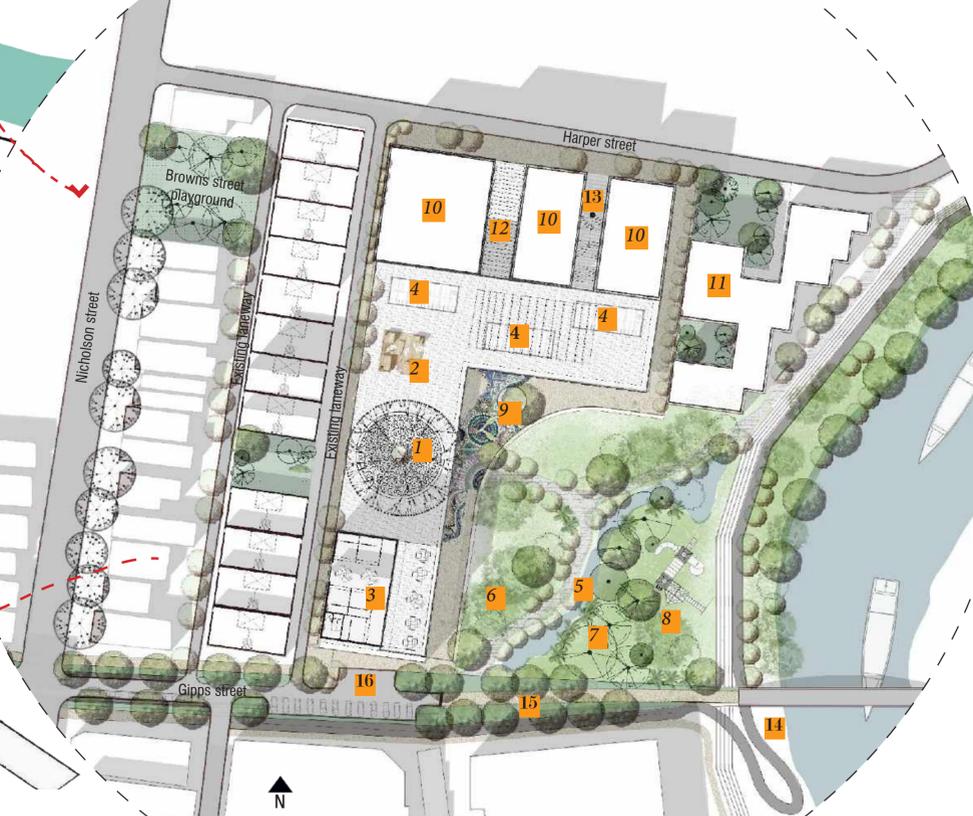
The existing car ramps leading to the rooftop car space between the commercial buildings on Harper street are removed to create pedestrian corridors towards the living lab precinct. Together with storefronts of the surrounding buildings these spaces will become vibrant nodes where people can shop, eat, and spend some quality outdoor time while mingling with the neighbourhood people. Thus this previously dead, commercial storage / warehouse buildings will become an urban village that connect the living lab precinct with the Harper street front.)

Key Legends:

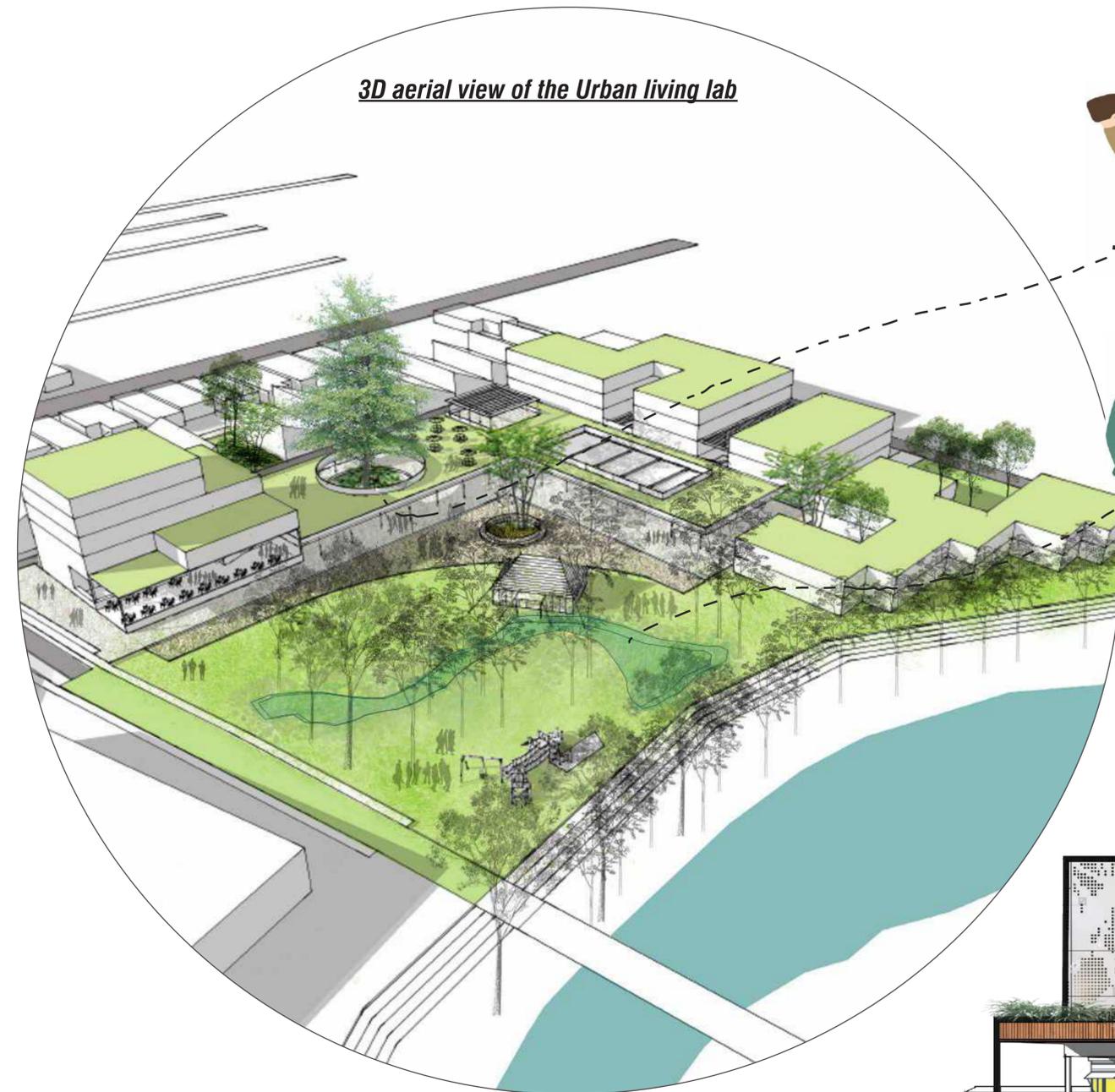
1. Yarning circle for council and community meetings, storytelling sessions, an outdoor classroom
2. Mobile stalls for communal needs (i.e., soup kitchen, vegetable swap stall etc.)
3. Local cafe and bakeries on the ground floor of the repurposed housing building
4. Mobile food and other local retail stalls to encourage local entrepreneurs
5. Constructed wetland using recycled construction wastes to mimic the pre colonial creek that was once there
6. Riparian vegetation to provide habitat for wetland dependant fauna species
7. Existing mature tree canopy providing habitat and creating a microcosm with the surrounding riparian bushland (previously located on the street between the townhouse blocks)
8. Children's educational and recreational facility (outdoor classroom and playground)
9. Outdoor exhibition plaza with Aboriginal street art to create a sense of place and belonging
10. Mixed use commercial development on the ground floors of co-operative building blocks (Restaurants, book shops, groceries, florists, pharmacy, bakeries etc.)
11. Social housing block with internal courtyards and gardens (repurposed from a dental laboratory building)
12. Pedestrian walkway to access the living lab precinct from Harper street
13. Ground floor pedestrian walkway and stairs for upper level roof garden access
14. Under construction bicycle and pedestrian all ability access ramp from lower level Yarra trail
15. Newly constructed pop up park at the end of Gipps street with pedestrian access to Collins Bridge
16. Parking space for the living lab precinct users
17. Converted rooftop parking space to a roof garden with BBQ and picnic facilities



Plan : proposed Urban living lab precinct
Scale- 1: 500



3D aerial view of the Urban living lab



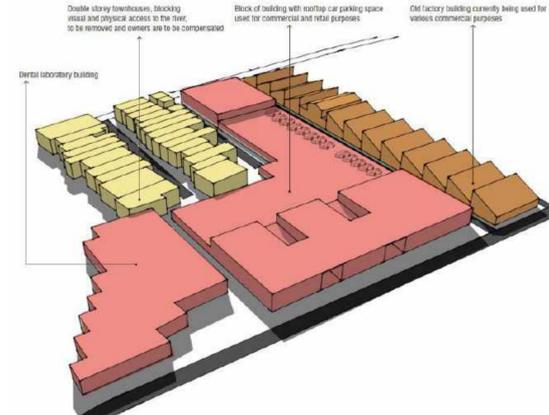
Narrator: Susan Morretti, an Italian Australian councillor

As I stepped off the tram and walked towards the Yarning circle (1) by Birrarung this morning, I was thinking of the time when we first decided to conduct the council meetings here on Country by Birrarung and it was so rejuvenating to sit with other council members, along with numerous community group leaders and Wurundjeri elders/original custodians of Country, to discuss matters of importance regarding our local council and community matters. I feel a sense of accomplishment as a team, of what we have achieved: a much cleaner Birrarung than it has been since colonization. Along with the Yarra Riverkeepers and local volunteers, we have managed to turn the river water safer for the swimmers, visitors, and fishes alike. The buzzing insects, chirping birds reassures me that our local ecosystem is thriving and extending into the streets and laneways stemming from Birrarung, a movement that first started with Gipps street revitalization. Today, we have a special agenda for the meeting, how to care better for the Grey headed flying foxes from the nearby flying fox colony in Yarra bend park. Along with the community members, Flying fox carer organizations and our Wurundjeri Elders, we will come up with plans to adopt and care for juvenile flying foxes better through council financial aids allocation and generating more awareness within the local voluntary groups. Since we have started coming together to the Yarning circle by Birrarung and holding our living lab sessions here, decision making have become a breeze because it helps us to connect with nature better and hence, prioritize our river and its ecosystem above other issues.

Narrator: Tobias Nguyen, a Vietnamese descent social worker

Since arriving to the makeshift stall (2) of our local food relief program this afternoon, I barely managed time to get a cup of coffee. The nearby local cafes (3) have excellent coffee and freshly baked cakes that I love to eat with my other volunteer friends whenever we come here whether for local food swap fairs, community led vegetable markets, soup kitchen or even local flea market. Today we have been slicing and dicing all the vegetables we have leftover from the swap stall and making soup for local people, whoever might be in need of a free hot bowl of soup in this cold winter night. Afterwards, we are planning on getting dinner from nearby food carts (4) who sell locally produced plant based items and they are everyone's favourite. We love sitting by the wetland park and listening to frogs croaking happily and occasional possums who come to get a drink from the shallow, treated water of the wetland (5). Sometimes if we are lucky, we also get to see some eel swimming just below the water surface and during night if it's really quiet, there's always a chance of catching glimpse of a grey headed flying fox diving in the water to get a drink. It's truly a magical place and to think all of these were not here just a decade ago is crazy! Once the wetland was constructed after removing the ageing housing stock that were blocking the riverfront access, the local volunteers along with numerous community groups came forward to recreate and revegetate the wetland and it's surroundings to create a sanctuary for local riparian flora and fauna species (6) amongst the existing mature tree layers (7), which nowadays serves as a riverfront educational and recreational facility (8). It reminds us everyday, how simple initiatives from humans can help our non-human kins to thrive alongside us.

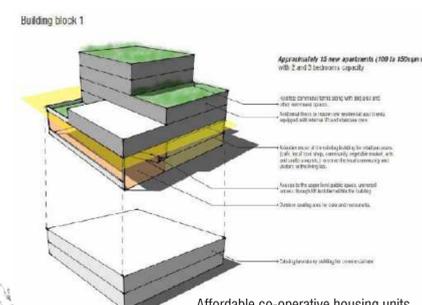
Current landuse of the site



Housing proposal

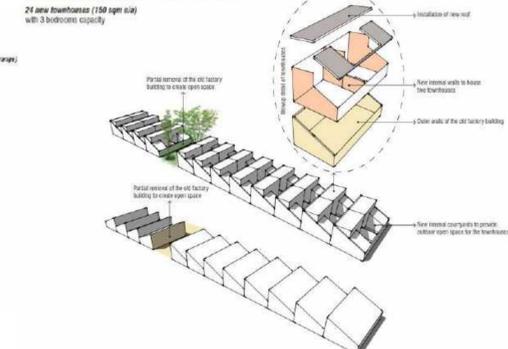


Building block 1

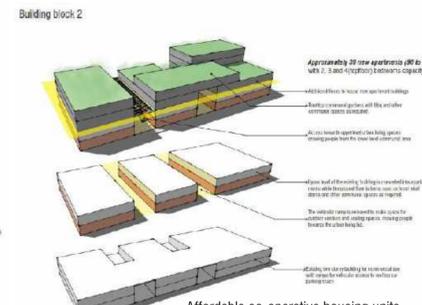


Affordable co-operative housing units

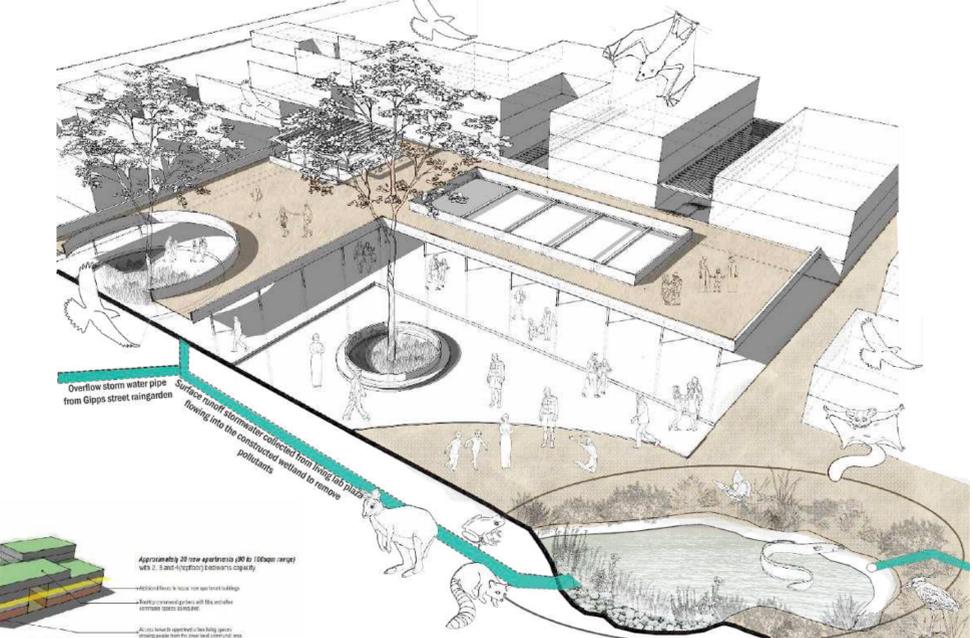
From factory building to affordable townhouses



Building block 2



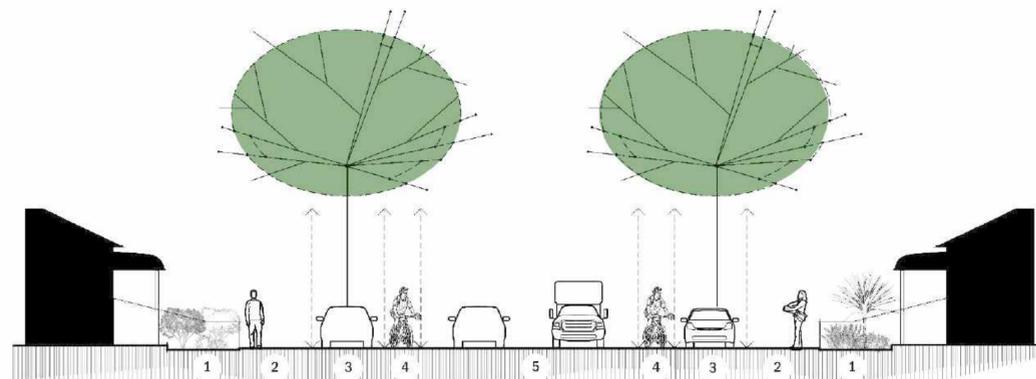
Affordable co-operative housing units



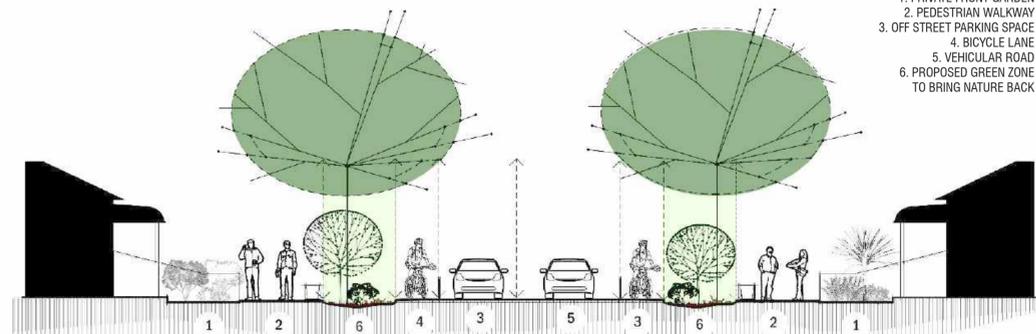
3D conceptual sectional perspective of the Urban living lab
(showing the connectivity between the constructed wetland, its surrounding riparian landscape and the fauna species it supports, as well as the WSUD principles)



Sectional perspective of The urban living lab precinct



Section : current Gipps street road use zoning
Scale- 1: 200



Section : proposed Gipps street revitalization
Scale- 1: 200



Sectional perspective of proposed Gipps street revitalization

Key Legends:

1. Kerbside raingarden with underground overflow pipe to carry the water to the newly constructed wetland
2. Private residential front garden with native plantation to provide habitat for native flora and fauna
3. Roadside coolseats to produce compost from organic food waste as well as a meeting place
4. Bicycle lane with bright coloured surface for added safety and segregation
5. oneway car lane
6. Off-street car parking spaces with emergency and accessible car parking spots
7. Existing mature canopy trees incorporated within the rain garden to create multi layered fauna habitat
8. Semi permeable pedestrian walkway made with recycled construction materials

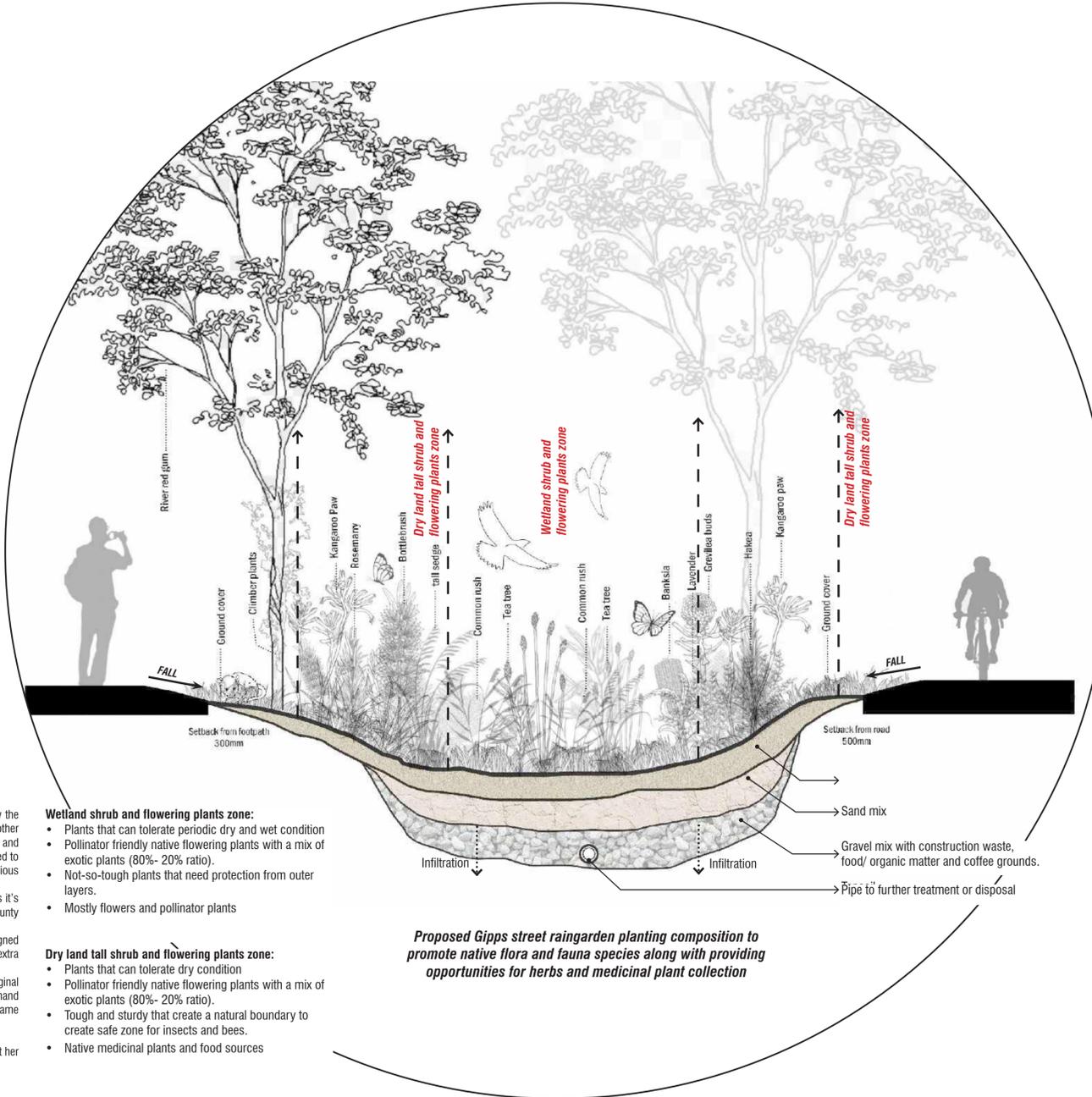
Narrator: Blake Jones, an Abbotsford primary school student

I like walking along Gipps street on my way to school every morning. My mum and I have been taking this route to school for years now and we absolutely love how the kerbside raingarden is thriving and flourishing with time. In the beginning, when the Gipps street revitalization project first started, my friends and I, alongside numerous other volunteers, worked hard to put up the rain garden. Mr. Smith, the project leader, explained to us how the rain garden will absorb and collect all the surface runoff water and help keep our roads safe and dry during heavy rainfall (1). He also said that, any surplus water will be infiltrated into the pipework that's running beneath and will be carried to the newly constructed wetland in our urban living lab precinct to be treated further through all the wetland plants and finally discharged into Birrarung. That way, our precious river will have clear running water instead of the muddy brown colour that's slowly changing.

Yesterday, I saw a silver wattle bursting into colour and several orchid is blossoming along the private frontyard residential gardens (2) along Gipps street which means it's officially Guling or, Orchid Season in Wurundjeri calendar, it's time for koalas (Gurrborra) to roam around at night. We learned all about the Wurundjeri seven seasons from Aunty Mary Graham in one of the storytelling sessions, as part of the seven seasons planting framework program that was being implemented for the raingarden planting. Another fun part are the coolseats along the pedestrian walkways (3). These coolseats are actually organic food waste composting stations but they are so beautifully designed that no bad odour comes out. I often store my uneaten lunch or apple cores to throw them into the coolseats and then collect compost from them whenever I need the extra nutrition boost for my own veggie garden. It's not just me, many of my friends and teachers do the same thing and that way we are not wasting any food.

My brother is also a regular bicycle commuter who uses the Gipps street route due to its spacious bike paths. Moreover, the bike paths are brightly coloured with aboriginal street arts to differentiate them from car lanes (4). It adds an extra layer of safety on top of the physical barriers. I participated along with several of my friends to lend a hand to the Wurundjeri street artists who were working really hard to finish painting the bike lanes when the road work first started. I feel really proud of how the street arts came out so good and I got to make new friends along the way.

Oh look! I just spotted a Rose Orchid in the raingarden, it's a medicinal plant and aunty Mary uses it in tea to relieve headaches. I have to collect a few of these and give it her this afternoon, during our storytelling session.



- Wetland shrub and flowering plants zone:**
- Plants that can tolerate periodic dry and wet condition
 - Pollinator friendly native flowering plants with a mix of exotic plants (80%- 20% ratio).
 - Not-so-tough plants that need protection from outer layers.
 - Mostly flowers and pollinator plants

- Dry land tall shrub and flowering plants zone:**
- Plants that can tolerate dry condition
 - Pollinator friendly native flowering plants with a mix of exotic plants (80%- 20% ratio).
 - Tough and sturdy that create a natural boundary to create safe zone for insects and bees.
 - Native medicinal plants and food sources

Proposed Gipps street raingarden planting composition to promote native flora and fauna species along with providing opportunities for herbs and medicinal plant collection

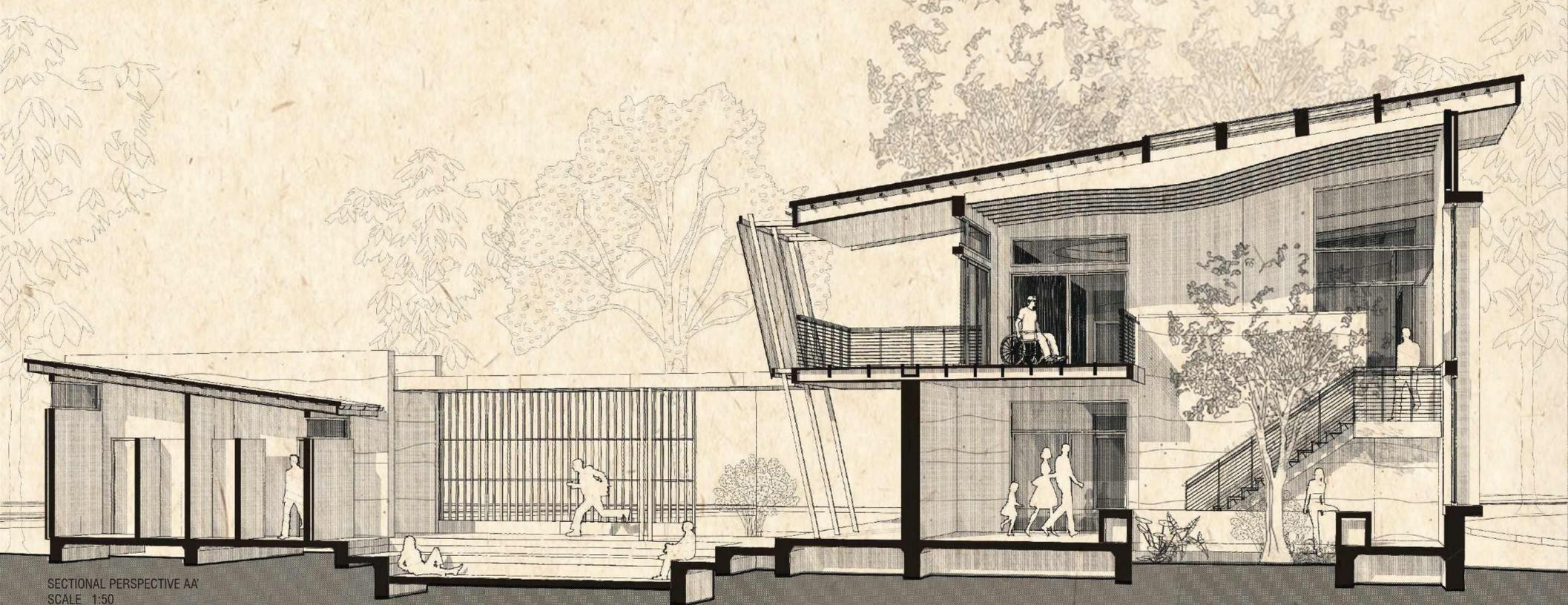
Architectural Systems and Research Methods

MAA402 November 2024 Course Tutor: Dillon Gorton

Architectural Systems and Research Methods addresses both research and construction experience. We explored the applied advanced architectural environmental, technological and construction systems of a complex architectural project. The learning outcome was to know how to critically analyse the environmental and technical systems related to complex architectural details. Students were tasked to choose one of the projects from previous studio and to explore the detail mechanisms of selected cross sections and exploded axonometric drawings.

Tutor's testimonial:

"Another incredibly impressive body of work, you have really gone above and beyond in so many aspects here which is a joy to see. Logbook is very comprehensive with a wealth of written and visualised information delivered in a very consistent way that does well to bring both your own strong hand-drawings and other sourced images together quite seamlessly. The insulation topics are particularly thorough, showing how deeply even these sorts of elements can be explored and displayed. Drawing panels are expectedly striking, once again finding that challenging but remarkable balance of visually engaging panels that still provide immense technical information. Great to see you tackle some more challenging / bespoke design moments here to really express your competency not just of drafting but of executing tricky, clever architectural details. Fantastic work all round, I really look forward to seeing where you can take all of this going forward. Well done." - Dillon Gorton

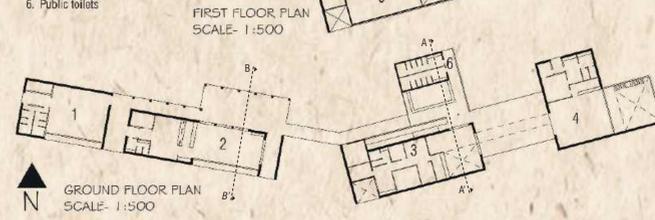


SECTIONAL PERSPECTIVE AA
SCALE 1:50

CENTER FOR NATURE CONSERVATION: PROJECT OVERVIEW

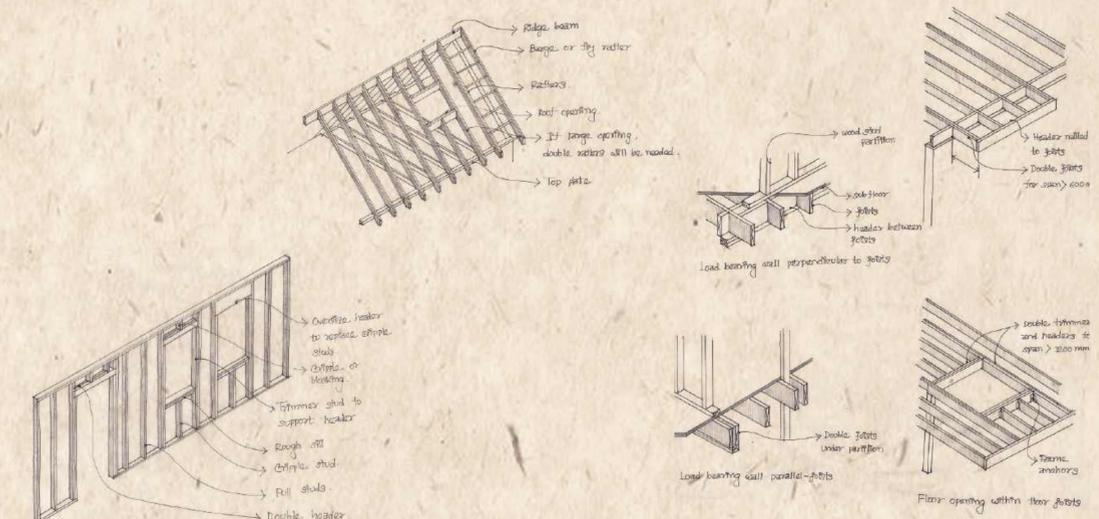
Key:

1. Multi purpose hall
2. Cafe and kitchen, storage
3. Admin and visitor's information
4. Retail & souvenir shop
5. Visitor's interpretation center
6. Public toilets



Project introduction and site analysis:

The proposed Nature center for Olinda recreation reserve in the Dandenong mountain ranges of Victoria, is designed for catering to the visitors of the park. The functional requirements include: A visitor information center, administration, cafe, public toilets, multipurpose hall and visitor's interpretation center. The proposed site has a BMO (bushfire management overlay) and SLO (significant landscape overlay). The site is rated as a BAL-29 zone. The prevalent climate zone is cold temperate rainforest.



Design criteria and passive solar design principles:

1. All the building material shall be compliant with AS3959 for fire protection of the building and its inhabitants while transmitting through the lightweight walls in the night time to maintain an even indoor temperature.
2. The two storied building will be designed with a heavy thermal mass in the lower level and lightweight timber construction in the upper level so heat can be gained and retained all through the day while transmitting through the lightweight walls in the night time to maintain an even indoor temperature.
3. The northern walls and openings will be protected from the direct sun with screening materials and by utilizing verandahs.
4. The building will have a North-South orientation where the built form will not deviate more than 15° from true north.
5. the building will have a shallow depth and single layered so that wind can pass through the spaces without much interruption for added comfort which is ideal for the temperate rainforest climate zone

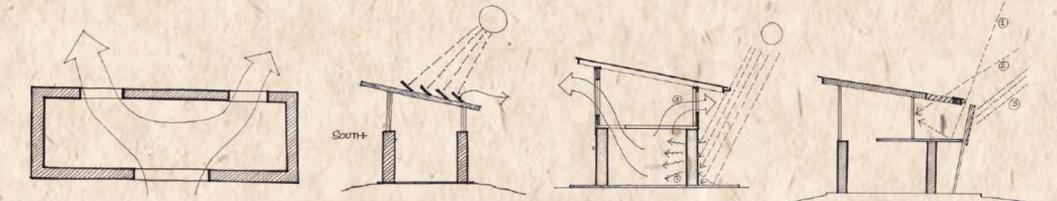
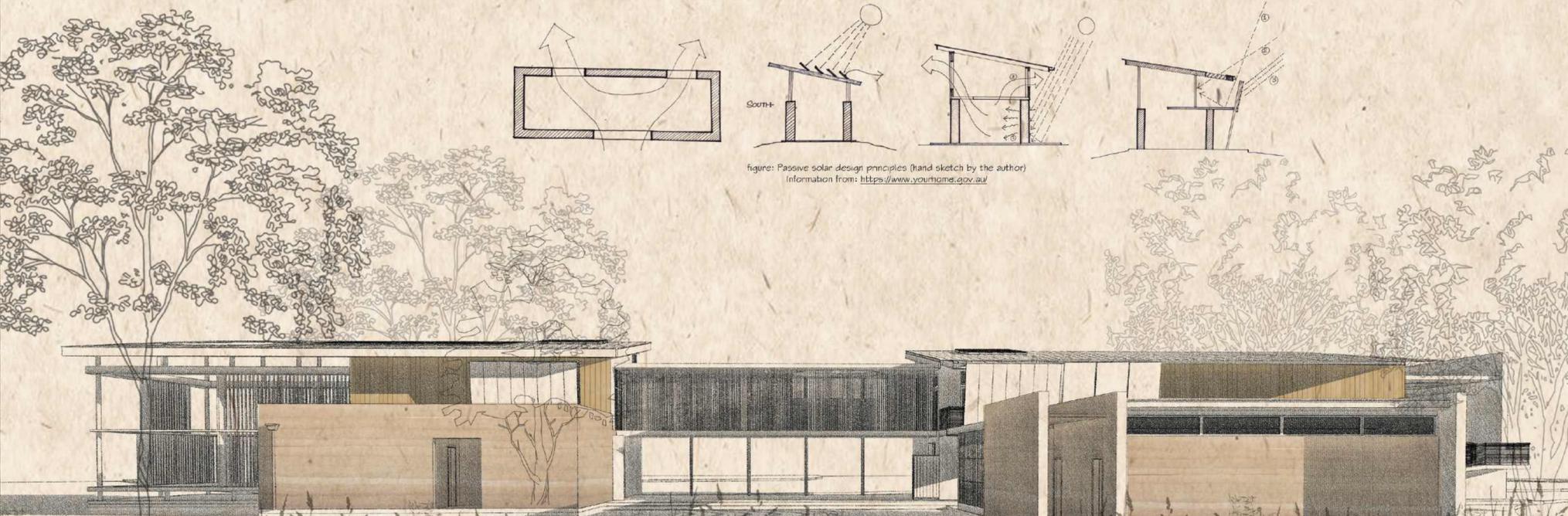
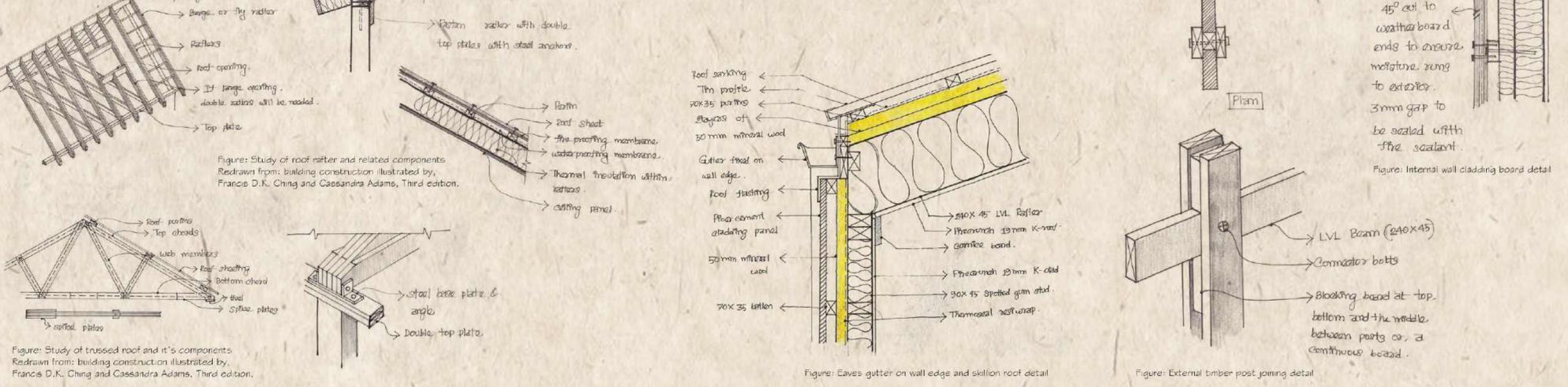
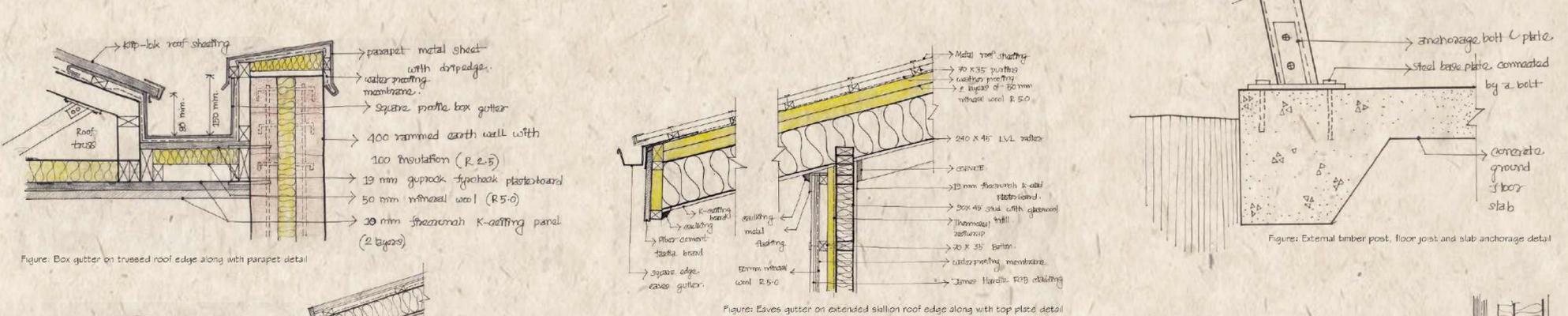
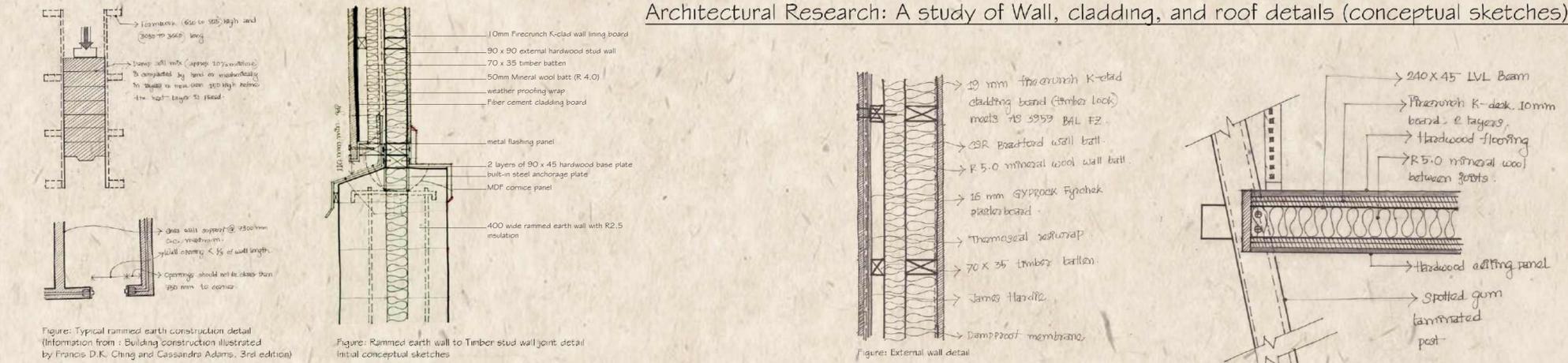


figure: Passive solar design principles (hand sketch by the author)
Information from: <https://www.yourhome.gov.au>

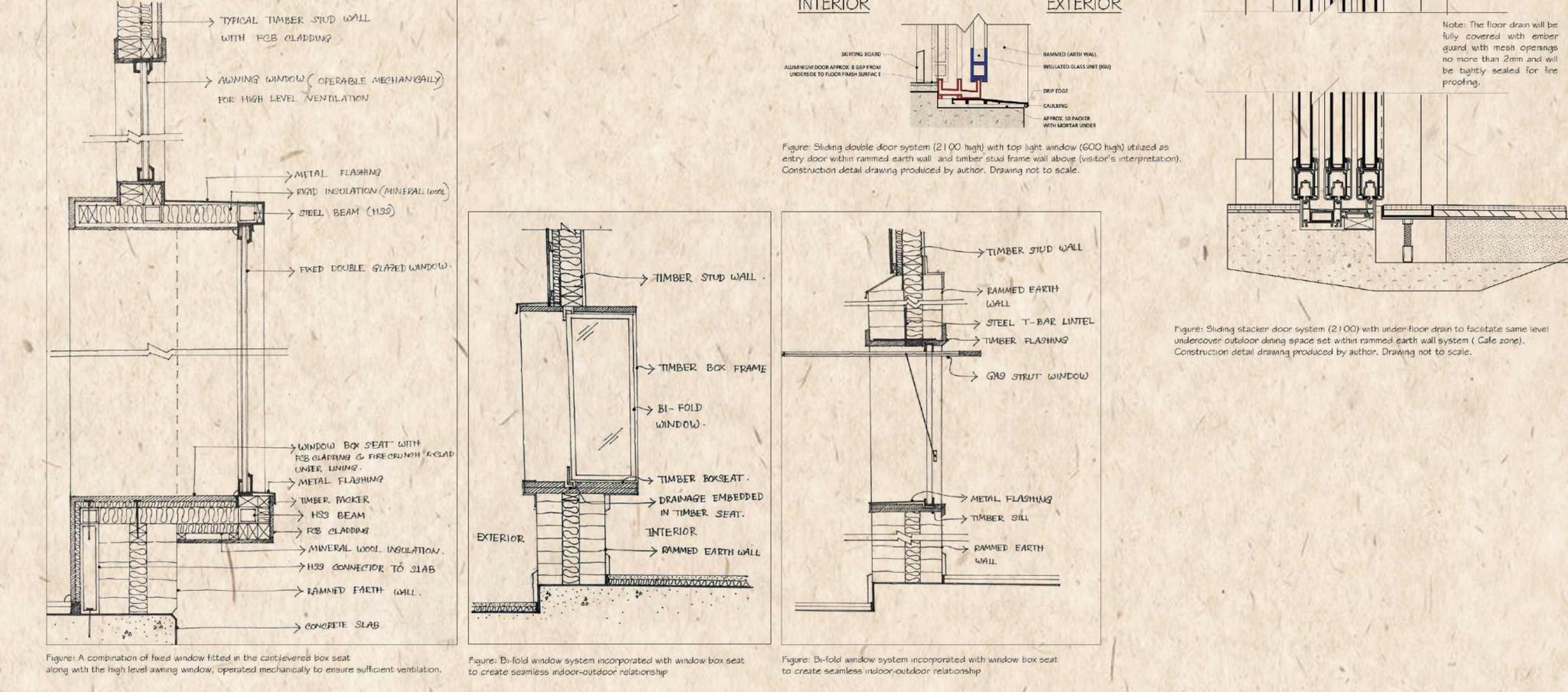
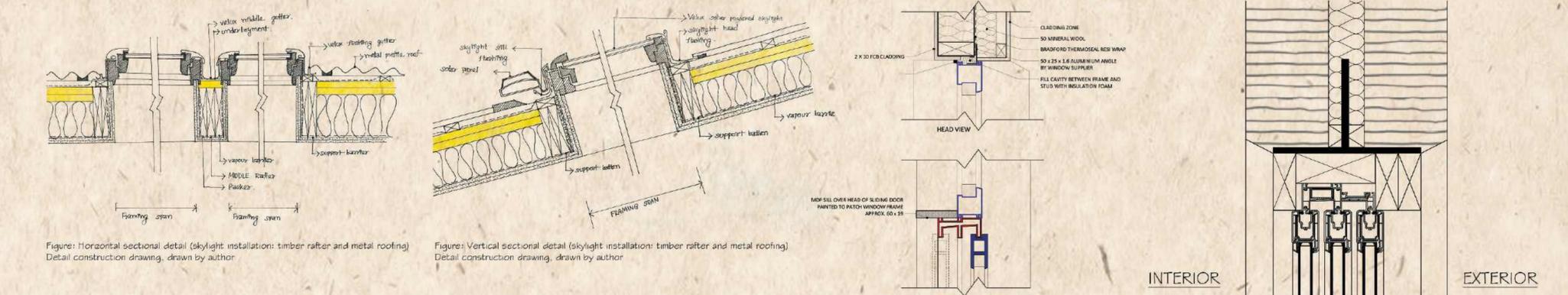


SECTIONAL PERSPECTIVE AA
SCALE 1:50

Architectural Research: A study of Wall, cladding, and roof details (conceptual sketches)

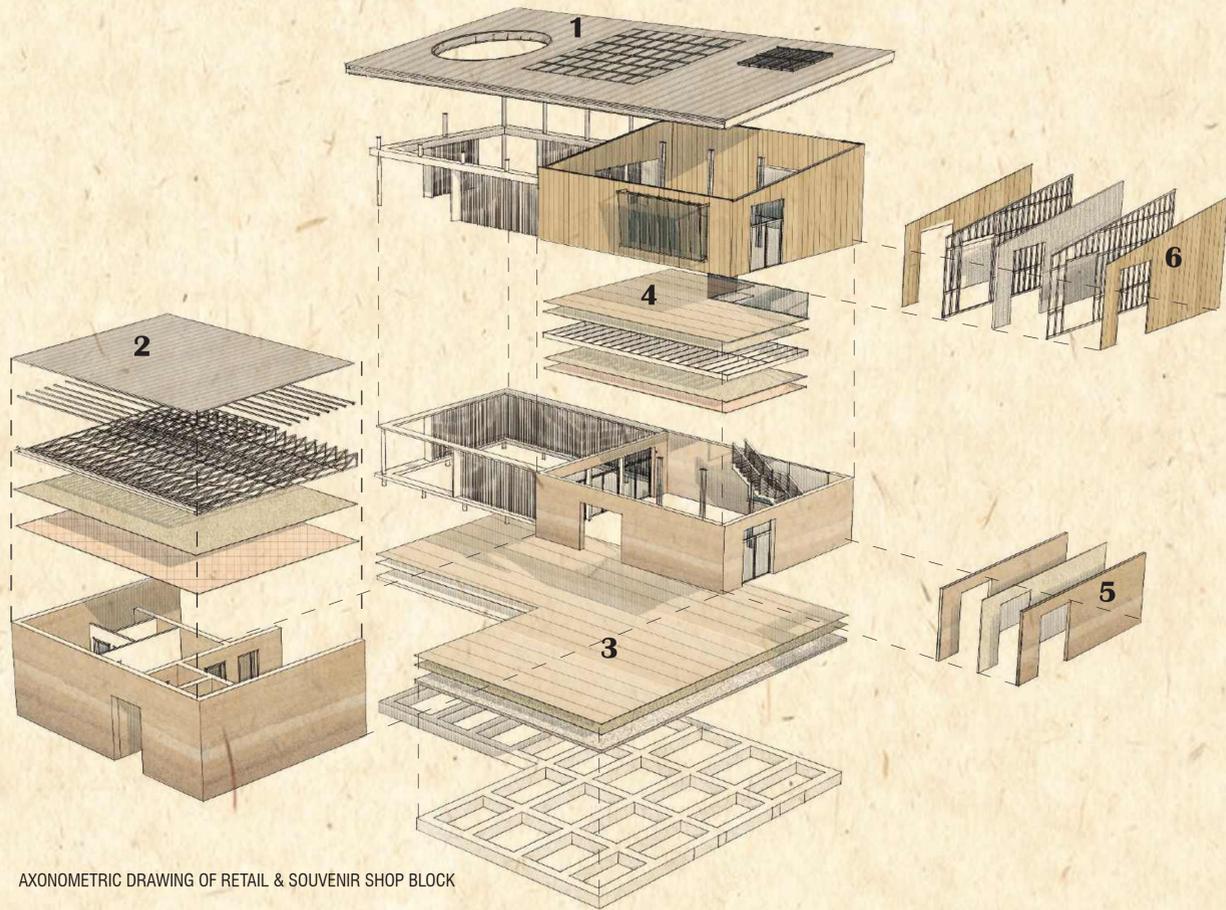


Architectural Research: A study of Skylight, Window and door system (conceptual sketches)

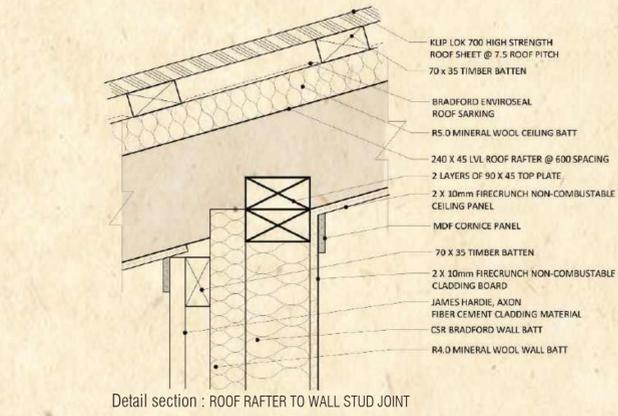


EXPLODED AXONOMETRIC DRAWING & DETAIL SECTIONS: BUILDING COSTRUCTION SYSTEM

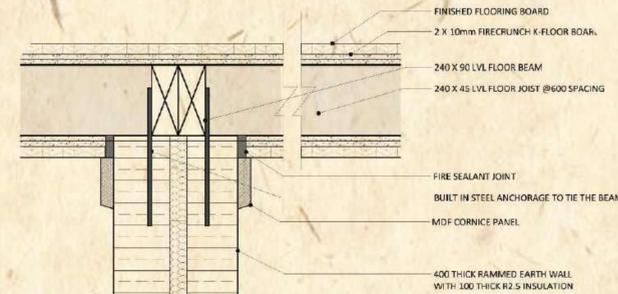
- SKILLION ROOF SYSTEM:**
 - LYSAUGHT® Klip-Lok 700 Hi Strength ROOFING SHEET
 - BRADFORD ENVIROSEAL ROOF SARKING
 - 2 X 50mm R 5.0 NON-COMBUSTABLE MINERAL WOOL BATT
 - NON-COMBUSTABLE 240 X 45 LVL RAFTER @7.5° PITCH
 - 2 X 19mm FIRECRUNCH K-ROOF CLADDING PANEL
 - SUPAWOOD WAVE PANELS INTERNAL CEILING LINING PANEL
- TRUSS ROOF SYSTEM:**
 - LYSAUGHT® Klip-Lok 700 Hi Strength ROOFING SHEET
 - 2 X 50mm R 5.0 NON-COMBUSTABLE MINERAL WOOL BATT
 - NON-COMBUSTABLE LVL TRUSS
 - 2 X 19mm FIRECRUNCH K-ROOF CLADDING PANEL
 - SUPAWOOD, SUPASLAT, ALUMINIUM INTERNAL CEILING PANEL
- FOUNDATION AND GROUND FLOOR SLAB CONSTRUCTION:**
 - 11mm DECO FLOOR, NON-COMBUSTIBLE, ALUMINIUM TIMBER LOOK FLOORBOARDS
 - 2 X 10mm FIRECRUNCH K-FLOOR BOARD
 - 150mm THICK LOW CARBON CONCRETE SLAB WITH 30% FLY ASH
 - 600 DEEP TWO WAY WAFFLE SLAB FOUNDATION SYSTEM
- TIMBER FLOOR JOIST CONSTRUCTION SYSTEM:**
 - 11mm DECO FLOOR, NON-COMBUSTIBLE, ALUMINIUM TIMBER LOOK FLOORBOARDS
 - 2 X 10mm FIRECRUNCH K-FLOOR BOARDS
 - NON-COMBUSTABLE 240 X 45 LVL FLOOR JOIST WITH R2.5 FLOOR INSULATION BATT
 - 2 X 10mm FIRECRUNCH K-ROOF CEILING BOARD
 - SUPAWOOD SUPASLAT, NON-COMBUSTABLE, ALUMINIUM TIMBER LOOK CEILING PANEL
- RAMMED EARTH WALL CONSTRUCTION SYSTEM:**
 - 400 THICK INSULATED RAMMED EARTH WALL WITH 100 mm R 2.5 STYROFOAM CORE, STABILIZED WITH 5% PFA AND 5% PORTLAND CEMENT.
- HARDWOOD STUD & FIBER CEMENT CLADDING WALL CONSTRUCTION SYSTEM:**
 - 133 WIDE JAMES HARDIE AXON FIBER CEMENT CLADDING
 - 70 X 35 STRUCTURAL BATTEN
 - 50 mm R 4.0 NON-COMBUSTABLE MINERAL WOOL BATT
 - 90 X 90 HARDWOOD NON-COMBUSTABLE TIMBER STUD
 - 2 X 10mm FIRECRUNCH K-CLAD FIBER CEMENT WALL LINING BOARD



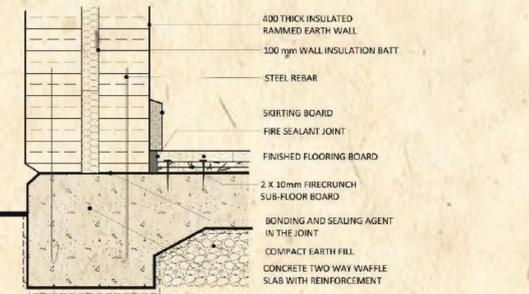
AXONOMETRIC DRAWING OF RETAIL & SOUVENIR SHOP BLOCK



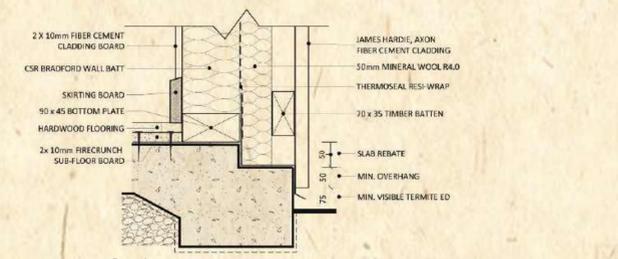
Detail section : ROOF RAFTER TO WALL STUD JOINT



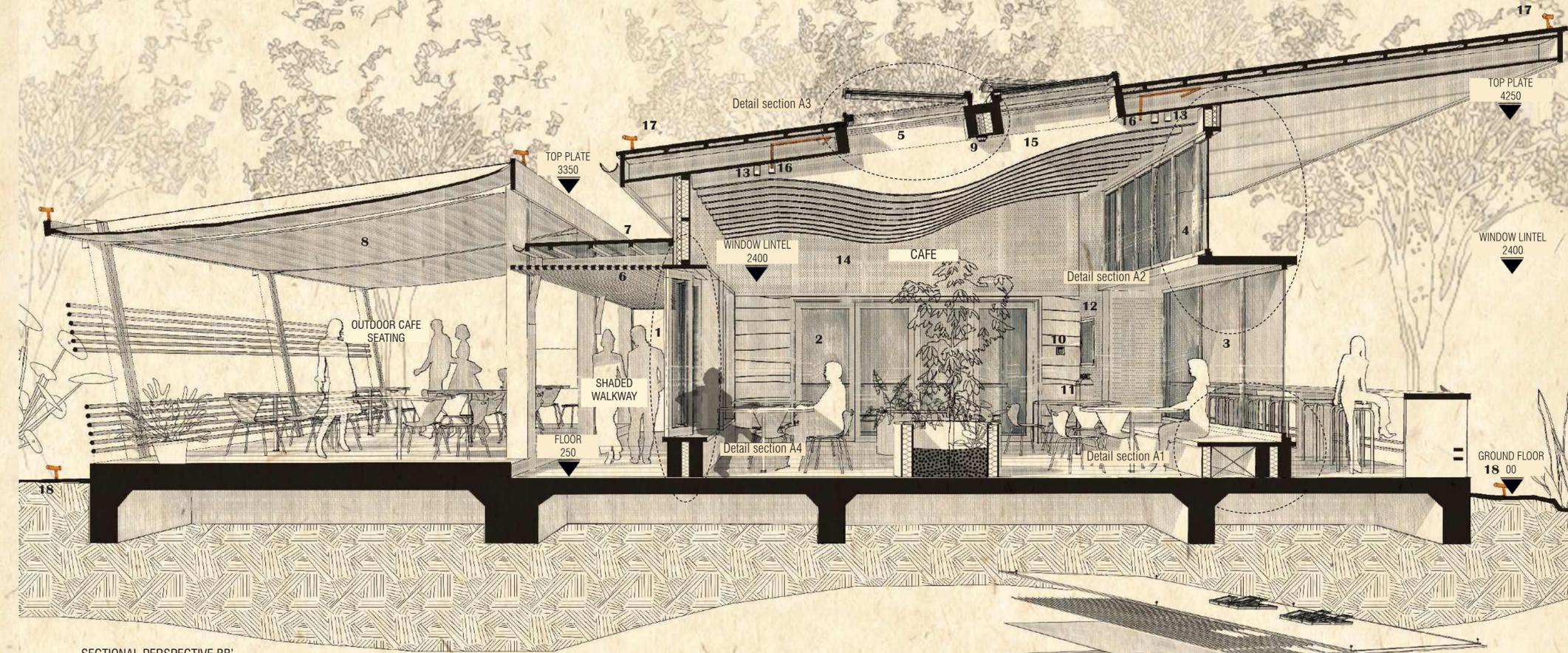
Detail section : FIRST FLOOR JOINT TO RAMMED EARTH WALL



Detail section : SLAB TO RAMMED EARTH WALL CONNECTION



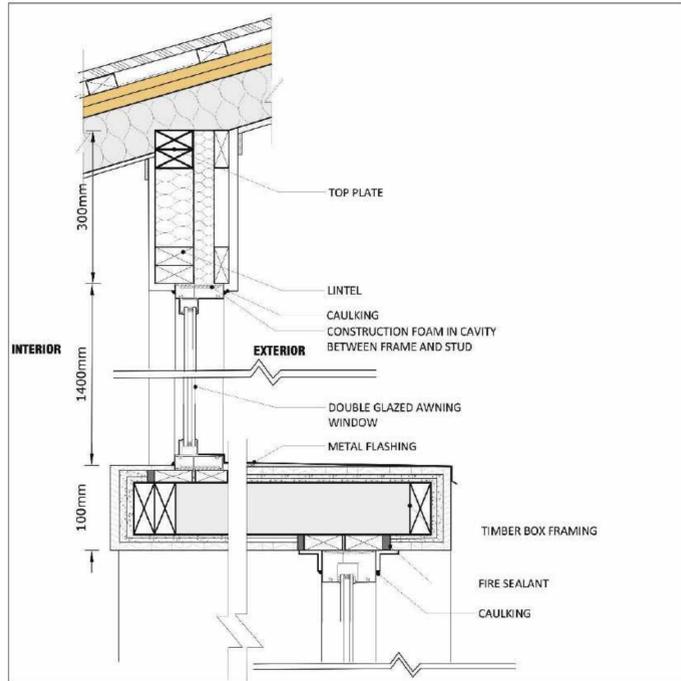
Detail section : SLAB TO EXTERNAL WALL STUD CONNECTION



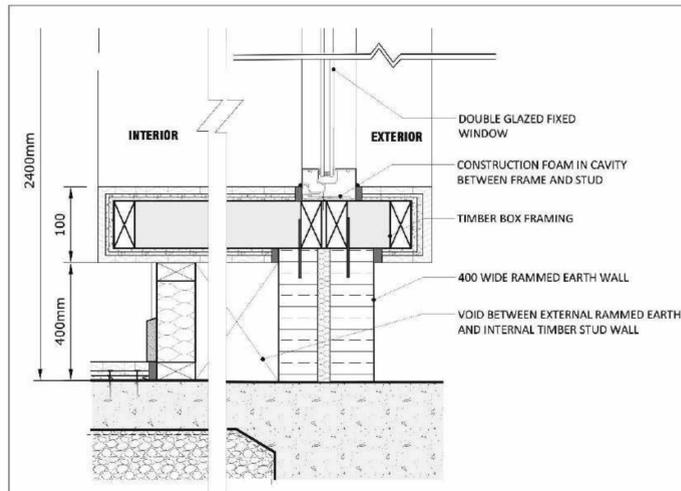
SECTIONAL PERSPECTIVE BB'
SCALE 1:50

KEY ANNOTATIONS:

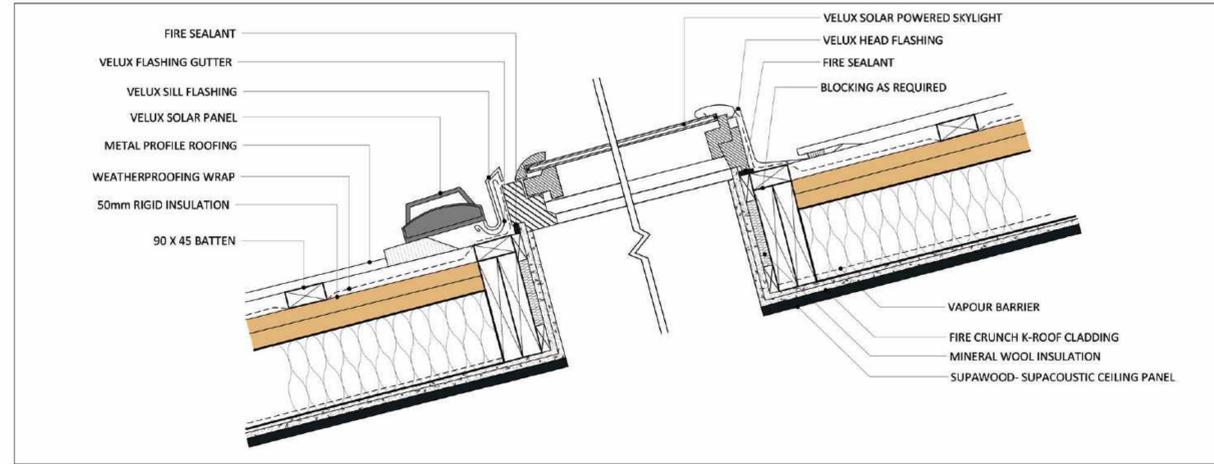
- BRADNAM'S COMMERCIAL FOUR PANEL BI-FOLD WINDOWS, FITTED WITH RETRACTABLE METAL SCREEN
- BRADNAM'S COMMERCIAL SLIDING DOORS, FITTED WITH SOUND SMART SYSTEM TO REDUCE NOISE
- BRADNAM'S "SIGNATURE" FIXED WINDOWS, FITTED WITH SOUND SMART SYSTEM TO REDUCE NOISE
- BRADNAM'S "SIGNATURE" AWNING WINDOWS, FITTED WITH SOUND SMART SYSTEM TO REDUCE NOISE
- VELUX SOLAR POWERED SKYLIGHT, FITTED WITH RAIN SENSOR AND METAL INSECT SCREEN
- SUPAWOOD-SUPASLAT ALUMINIUM SLAT PANEL SYSTEM, EXTERNAL GRADED, NON-COMBUSTIBLE
- DANPAL FREESPAN ROOF Danpalon® polycarbonate panels OVER ALUMINIUM PROPRIETARY STRUCTURAL RAFTERS
- HELIOSCREEN RETRACTABLE ALL- SEASON SHADE, DESIGN SERIES, TAUT TRAPEZIUM FABRIC
- FIRETRACKER INTEGRATED FIRE ALARM SYSTEM
- FIRE SYSTEM MONITORING UNIT
- FOAM BASED FIRE EXTINGUISHER INSTALLED 400mm ABOVE FLOOR (WITH CLEAR SIGNAGE 2m ABOVE FLOOR)
- WALL RECESSED FIRE HOSE REEL CABINET WITH CLEAR SIGNAGE
- LED ENERGY EFFICIENT CEILING MOUNT DOWNLIGHTS, ADJUSTABLE
- SUPAWOOD-SUPAMICRO ACOUSTIC WALL PANEL, SPOTTED GUM TEXTURE
- SUPAWOOD-WAVE PANEL WITH SUPACOUSTIC CEILING LINING, SPOTTED GUM TEXTURE
- FLAMESTOP VIKING RECESSED PENDENT SPRINKLER HEAD FOR COMMERCIAL EXTENDED COVERAGE
- EMBERR ARGUS AUTOMATED BUSHFIRE SPRINKLER SYSTEM (ROOF MOUNT) FOR EMBER PROTECTION
- EMBERR WALL AUTOMATED BUSHFIRE SPRINKLER SYSTEM (LAID ON GROUND) FOR EMBER PROTECTION



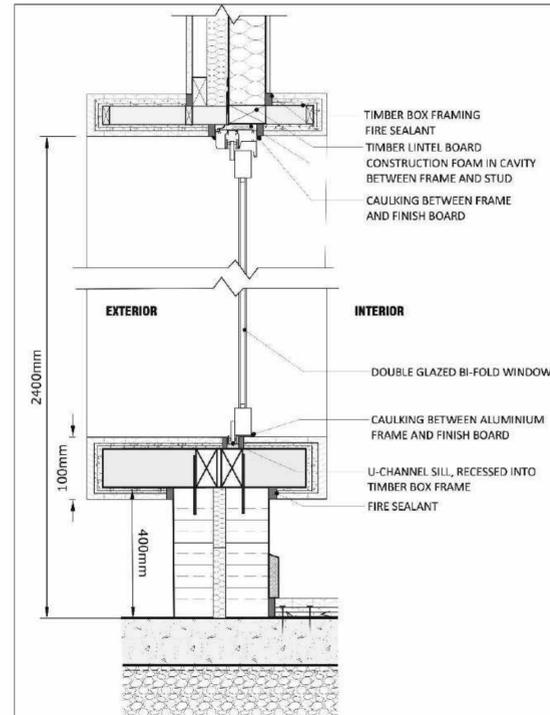
DETAIL SECTION A2
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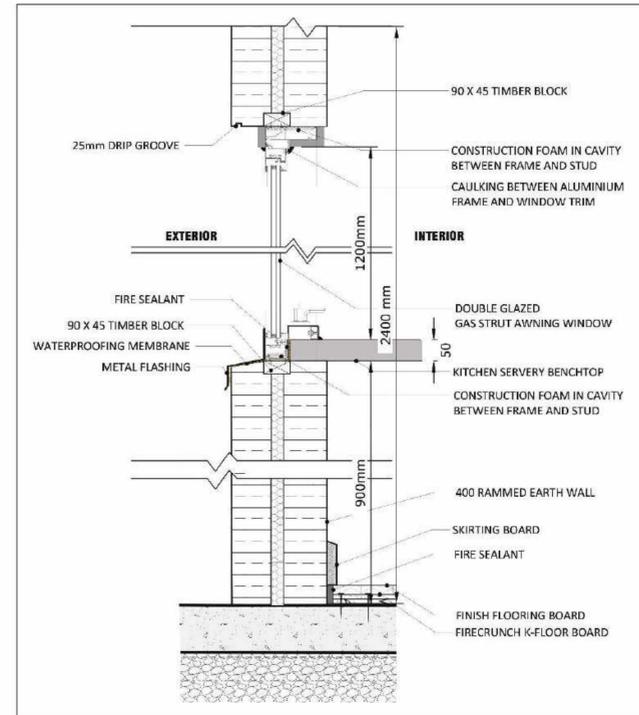
DETAIL SECTION A1
NOT TO SCALE



DETAIL SECTION A3
NOT TO SCALE



DETAIL SECTION A4
NOT TO SCALE



DETAIL SECTION A5
NOT TO SCALE

Thank You

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Building Design Consultant
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Please visit the following link for professional work portfolio:
https://issuu.com/sammana/docs/portfolio_australia_opt